



29th ICDE World Conference
Costa Rica, 2023
**Joining Hands in Peace
for the Futures of Education**



INTERNATIONAL
COUNCIL FOR OPEN AND
DISTANCE EDUCATION



UNED
UNIVERSITY OF NARIÑO

Conference Proceedings

29th ICDE WORLD CONFERENCE 2023



**“Joining Hands in
Peace for the Futures
of Education”**

● November 6th-10th, 2023 ● Costa Rica Convention Center, San Jose, Costa Rica



29th ICDE World Conference Costa Rica, 2023

Joining Hands in Peace for the Futures of Education



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Chairman message

As I reflect on the conclusion of the 29th ICDE World Conference 2023, I am filled with immense pride and gratitude for the journey that has brought us here. Serving as Rector of the Universidad Estatal a Distancia de Costa Rica (UNED) and President of this prestigious conference, it has been a true privilege to welcome the global community—members of organizations from around the world—who responded to our call and contributed to the resounding success of this monumental event.

Hosting the ICDE World Conference was an extraordinary honor for UNED. From November 6 to 10, 2023, the Costa Rica Convention Center became the hub for global discussions on distance, online, flexible, and open education. Under the theme “Joining Hands in Peace for the Futures of Education”, this event represented an invitation to unite in pursuit of a future where education serves as a catalyst for peace, social inclusion, and sustainable development.

The conference offered an exceptional platform where international researchers, academics, and industry leaders gathered to share their latest insights and innovations. The discussions and presentations were anchored in four pivotal subthemes.

First, global inclusion and social equity through education, underscored the reality that any educational transformation must be deeply connected to the sustainability of our planet’s resources and the peaceful coexistence of societies. The Covid-19 pandemic reminded us of the pressing need to ensure full educational inclusion, exposing the gaps that still exist in post-pandemic contexts.

Second, we examined the future of learning organizations and their crucial role in societal transformation. Key discussions centered on organizational innovation, ethical leadership, and digital transformation—identified as essential to navigating the challenges of the decades ahead, where alternative credentials and artificial intelligence are rapidly reshaping the landscape of education.

Third, the conference addressed the future of distance learning models and technologies. The rise of hybrid and flexible learning modalities, alongside developments in digital literacy, gamification, and social-emotional learning, highlighted the need for continuous innovation to provide education that is both accessible and of the highest quality.

Lastly, the role of collaboration and international networks was a cornerstone of the dialogue on building future educational ecosystems. The pandemic demonstrated how interconnected our world has become, and it emphasized that internationalization, supported by technology, can expand opportunities for learning even in contexts of economic scarcity.

As we close this chapter, we take pride in the collective efforts that made this global event possible. I would like to extend my deepest thanks to all who participated in and contributed to the 29th ICDE World Conference. Your insights, energy, and commitment have been invaluable in shaping the futures of education. Together, we have taken meaningful steps toward a more inclusive, sustainable, and peaceful tomorrow.



RODRIGO ARIAS CAMACHO

Rector UNED

Chairman of the 29th ICDE World Conference

ORGANIZATION

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Senior Trade Attorney

Conference Theme:

Joining Hands in Peace for the Futures of Education

Subthemes:



1. Global Inclusion and Social Equity through OFDL

Definition: The futures of education will depend on and be closely related to the futures of the planet. Any transformation in OFDL is then framed by the sustainability of planetary natural resources and by the peaceful cohabitation of global societies. The futures of education must leave no one behind and should be responsive to people's multiple views and journeys. The Covid-19 pandemic uncovered all our pending duties to ensure total inclusion and educational justice for all.

This subtheme includes topics such as:

1.1 Learning from the Pandemics	1.5 Peace,
1.2 Sustainable Development Goals	1.6 Equality,
1.3 Social Conflicts, Global Challenges and	1.7 Educational Inclusion,
Systemic Thinking in Relation to OFDL	1.8 Good Living Philosophy.
1.4 OFDL from Diverse Territories	



2. Future Learning Organizations and Structure for Societal Transformation and Sustainability

Definition: Digital and social transformations keep having strong effects on the futures of educational organizations. Questions remain on the shape and configurations of the learning spaces of the coming decades.

This subtheme includes topics such as:

2.1 Organizational Innovation	2.6 Evolution of Micro-Credentials
2.2 Transformation with Ethics	and Alternative Digital Credentials
2.3 Organizational Leadership	2.7 Digital Transformation
2.4 Policy	2.8 Artificial Intelligence
2.5 Digital Universities	

Conference Theme:

Joining Hands in Peace for the Futures of Education

Subthemes:



3. The futures of quality open, flexible and distance learning models and technologies

Definition: The futures of our educational models is a priority for this event, considering the development of varied modalities that have emerged in the last decade. The technological revolutions will keep irradiating their effects on the education industry and the future of OFDL organizations.

This subtheme includes topics such as:

3.1 Online and Distance Learning (ODL, ODeL, blended, hybrid, hyflex)	3.8 Experiential Learning
3.2 Digital Competence, Literacy and Citizenship	3.9 Learning Innovation
3.3 Best Practices	3.10 Lifelong Learning
3.4 Methodological Advances	3.11 Digital STEM and STEAM Education
3.5 Microlearning	3.12 Advanced EdTech
3.6 Social-Emotional Learning	3.13 Innovation
3.7 Gamification	3.14 Ethics



4. Networking and Collaboration in new educational ecosystems

Definition: The futures of education cannot be designed in isolation. The Covid-19 pandemic demonstrated how relevant it is to build strong collaboration networks and to create open spaces holding hands together.

This subtheme includes topics such as:

4.1 Internationalisation	4.4 Learning Ecosystems
4.2 Cross-Continental and Regional Collaboration	4.5 Renewed Agenda 2030
4.3 Internationalisation for Society	4.6 Open Learning

KEYNOTE SPEAKERS



Dr. Martin Dougiamas
Fundador y CEO Moodle



Dr. John O'Brien
Presidente y CEO EDUCAUSE



Dra. Romina Kasman
Especialista en Educación de la
UNESCO Costa Rica



Dr. Wang Qiming
President
Open University of China



Dr. Tony Mays
Especialista en Educación
Abierta del Commonwealth of
Learning en Vancouver



Porf. Goski Alabi
President of the African Council
for Distance Education (ACDE).

KEYNOTE SPEAKERS



Dra. Andreia Inamorato

Especialista en
Aprendizaje Digital de la
Universidad de Barcelona



Dr. Albert Sangrà Morer

Director, UNESCO Chair in
Education & Technology for Social
Change



Dra. Lily Chan

Directora ejecutiva y Vicerrectora
de la Universidad Abierta de
Wawasan, Penang, Malasia.



Dra. Mary Elizabeth Morocho Quezada

Subdirectora de CALED, Instituto
Latinoamericano y del Caribe para la Calidad
de la Educación Superior a Distancia.



Dr. Ron Owston

Investigador Asociado
Contact North | Contact Nord

Programme at a Glance

November 6th, 2023 - Pre-Conference

Exhibitor Setup	07:30-18:00
Registration Open	08:00- 18:00
ICDE and Associations' Pre-meetings	08:00-18:00
ICDE - Global Doctoral Consortium Session	09:00-16:00
Conference dates Global Doctoral Consortium Reception	18:00-19:30



November 7th, 2023



Registration & Exhibitor Area Open	07:30-17:00
Morning Coffee and Visits to Exhibitor Booths	08:00-08:30
Official Opening Ceremony	08:45-09:00
Opening Plenary with Keynote Speaker	09:00-10:00
Concurrent Sessions	10:30-12:00
Lunch, Networking and Visits to Exhibitor Booths	12:00-13:00
Concurrent Sessions with Invited Speakers	13:00-15:00
Concurrent Sessions with Invited Speakers	15:15-17:15
Keynote Speaker	17:15-18:00
Opening Reception for All Delegates	18:15-20:00

November 8th, 2023



Registration & Exhibitor Area Open	07:30-17:00
Morning Coffee and Visits to Exhibitor Booths	08:00-08:15
Keynote Speaker	08:30-09:15
Keynote Speaker	09:15-10:00
Concurrent Sessions / Poster Session	10:30-12:00
Lunch, Networking and Visits to Exhibitor Booths	12:00-13:00
Concurrent Sessions with Invited Speakers	13:00-15:00
Concurrent Sessions with Invited Speakers	15:30-17:00
Keynote Speaker	17:00-17:45
Gala Dinner	18:45-20:00

November 9th, 2023



Registration & Exhibitor Area Open	07:30-17:00
Morning Coffee and Visits to Exhibitor Booths	08:00-08:30
Keynote Speaker	08:45-09:15
Panel Session	09:15-10:15
Networking Coffee Break and Visits to Exhibitor Booths	10:15-10:30
Concurrent Sessions with Invited Speakers	10:30-12:00
Lunch, networking and Visits to Exhibitor Booths	12:00-13:00
Concurrent Sessions with Invited Speakers	13:00-15:00
Networking Coffee Break and Visits to Exhibitor Booths	15:00-15:30
Closing Ceremony	15:30-17:00

November 10th, 2023 - Post-Conference

Paid Tours ● 07:30-17:00

Free Tours ● 07:30-17:00



Keynote presentations

Opening Keynote Presentation Tuesday 7, 9 AM	Dr. John O'Brien	EDUCAUSE Insights on the Futures of Higher Education
		EDUCAUSE has played a key role in researching, amplifying, and accelerating important trends related to technology in higher education. In this keynote presentation, EDUCAUSE President and CEO Dr. John O'Brien will share the latest on how the future is shaping up in 2023 and beyond.

Keynote Presentation 2 Tuesday 7, 9:30 AM	Dra. Mary Morochó Quezada	Retos para el Aseguramiento de la Calidad en Educación Superior A Distancia y En Línea: Una Visión Desde AMyC
		El aseguramiento de la calidad en América Latina y el Caribe, implica abordar una serie de retos relacionados con el desarrollo pedagógico, la cultura de la evaluación, la innovación tecnológica, la internacionalización, los ODS, las barreras políticas, entre otros, debido a la diversidad de contextos, recursos y necesidades en la región. Superar estos retos de manera efectiva requiere de la colaboración y el compromiso de los gobiernos, las instituciones educativas, los organismos, asociaciones de evaluación y acreditación de la región para garantizar la mejora de la calidad en la enseñanza superior a distancia y en línea.

Keynote Presentation 3 Tuesday 7, 17:15 PM	Dr. Ron Owston	Learning on the Edge: How AI is Making E-Learning More Accessible, Engaging, and Personalized

In an era where online learning is not just an option but a necessity, how can we make education more personalized, efficient, and accessible? Join Dr. Ron Owston, Research Associate, AI in Higher Education at Contact North | Contact Nord for a groundbreaking talk where he unveils two transformative tools: AI Tutor Pro and AI Teaching Assistant Pro. Powered by advanced ChatGPT technology, these tools demonstrate how AI can be harnessed to support learner and educators in ways never before possible. AI Tutor Pro democratizes learning by offering free personalized, on-demand educational support for any subject, anywhere. Imagine a tutor that adapts to your learning style, pace, and curriculum needs, available 24/7. On the other hand, AI Teaching Assistant Pro liberates educators from routine tasks, automating the creation of tests, exams, syllabi, teaching notes, and presentation slides. This allows educators to focus on what they do best teaching and inspiring. Don't miss this opportunity to be at the forefront of an educational transformation. Whether you're an educator, academic administrator, or edtech enthusiast, this talk will provide you with invaluable insights into the future of online learning. Come discover how AI can make education more personalized, efficient, and universally accessible.

Keynote Presentation 4 Wednesday 8, 8:30 AM	Dra. Lily Chen	Micro-credentials: The Game Changer in Open, Flexible and Distance Learning Models

Micro-credentials, Macro benefits! Micro-credentials are transforming the higher education landscape as they present a different learning model making education accessible to all. These bite-sized certification programmes offer learners the opportunity to acquire specific skills and knowledge, catering to the demands of rapidly evolving industries. By providing accessible, flexible, and personalized learning pathways, micro-credentials enable individuals to upskill and reskill, thus enhancing their employability and adaptability in a dynamic job market. Embracing the principles of open education, these credentials facilitate inclusivity and equal access to education, removing geographical barriers and empowering a diverse group of learners to continuously pursue lifelong skills development. With the potential to bridge the gap between academia and industry requirements, micro-credentials embody a transformative force in reshaping the future of learning, one modular achievement at a time.

Keynote Presentation 5 Wednesday 8, 9:00 AM	Dr. Martin Dougiamas	How we can use AI to make education amazing
As the founder and CEO of Moodle, Martin has dedicated his past 30 years to helping to turn the raw power of the Internet into a usable tool that has empowered millions of educators globally. In the past few years, AI has shown itself to be a force that will revolutionise and disrupt society even more than the Internet did. Despite widespread fears in the educational community of how AI will impact traditional processes, Martin will lay out his optimistic vision for a new infrastructure of Open Education Technology that could actually do a much better job of educating than anything we had in the past.		
Keynote Presentation 6 Wednesday 8, 17:15 PM	MSc. Romina Kasman	La importancia de la educación a distancia en la construcción de una ciudadanía mundial.
En esta conferencia, compartiremos conceptualizaciones básicas de la educación para la ciudadanía mundial y el desarrollo sostenible, el rol de la educación a distancia en su promoción –incluyendo posibles desafíos y lecciones aprendidas-, y recomendaciones para su fortalecimiento desde los ámbitos de curriculares, la formación docente, los procesos de enseñanza y aprendizaje y la gobernanza y la gestión institucional, la vinculación con las comunidades circundantes y el mundo del trabajo. Se realizará especial énfasis en fomentar una conversación resultante de la ponencia que articule las nociones del derecho a la educación a lo largo de la vida, el fortalecimiento de las identidades y el diálogo intercultural y el uso de las tecnologías como instrumentos pedagógicos y de construcción de relaciones sociales con base en un sentimiento de pertenencia a una humanidad común.		
Keynote Presentation 7 Thursday 9, 8:30 AM	Dr. Qiming Wang	Building a Global Digital University: Open Education and the Future of Higher Education
In his speech, Dr. Qiming Wang explores the transformative potential of digitalization and open education in shaping the future of higher education, with a specific focus on the establishment of a global digital university. His speech examines the international consensus on the digital transformation of education, highlights China's actions in promoting digital education, summarizes the practices of the Open University of China, and looks forward to the role of open education in the future development of global higher education in the context of digital transformation of education.		

Keynote Presentation 8 Thursday 9, 9:00 AM	Dr. Goski Alabi	Goodwill Message by the African Council for Distance Education (ACDE)

In this keynote address, Professor Goski Alabi, President of the African Council for Distance Education (ACDE), emphasizes the crucial role of open, distance, and flexible learning (ODFeL) in addressing the challenges faced by Africa's growing youth population. As the continent with the youngest population globally, Africa is poised for significant growth, but only if inclusive, equitable, and high-quality education is prioritized. Prof. Alabi highlights that education is not just a tool for inclusion but is also vital for peace, security, and economic progress. The keynote addresses the importance of the global theme of the conference and acknowledges the efforts of organizers in aligning the discourse of education with peace-building initiatives. Prof. Alabi brings attention to the opportunities and challenges facing higher education in Africa and explores innovative solutions for improving access to quality education through collaboration and recognition of new educational pathways.

Keynote Presentation 9 Thursday 9, 9:30 AM	Dr. Tony Mays	Riding the Wave, Avoiding the Undertow: Teacher Education through and for Distance Education

This presentation begins with a personal reflection on my experience as a classroom teacher and as a distance teacher. I will then explore the ways in which a teacher's professional identity is forged and how this has been challenged in recent years by increasing use of ICT, the pandemic and the even more recent emergence of generative AI. I will then explore the ways in which this understanding has shaped our work within the Commonwealth of Learning, especially in relation to my own work in open schooling and in the Pacific. By using examples from practice, explaining the thinking underpinning these practices and the impacts thereof, I hope to build towards a pragmatic framework for future teacher development using distance education to learn about and to practise distance education, in ways that build on positive experiences and encourage experimentation and innovation.

Keynote Presentation 10 Thursday 9, 15:15 PM	Dra. Andreia Inamorato	A change is as good as a rest: open and lifelong learning for sustainable futures

In this keynote, Andreia will present a critical perspective on the evolution of open and lifelong learning to current days, through a lens of social change and digital education. She will explore transformative, place-based innovation ecosystems as key for practices and policies that will frame sustainable futures in education.

Closing Keynote Presentation Thursday 9, 15:45 PM	Dr. Albert Sangra	Imminent Challenges for Online Education Institutions

The pandemic, first, and then the pushfulness of Artificial Intelligence are challenging online education and its institutions. Analysis of the current trends and how they could influence the future educational models and operations of distance and online education institutions will be discussed in this presentation.

Concise talks abstracts

What does industry actually want from micro-credentials?

Mairéad Nic Giolla Mhichíl · mairead.nicgiollamhichil@dcu.ie · Dublin City University Professor
Elaine Beirne · elaine.beirne@dcu.ie · Dublin City University

Dr. Conchúr Mac Lochlainn · conchur.maclochlainn@dcu.ie · Dublin City University

This concise paper highlights the potential of micro-credentialing and alternative digital credentials in addressing emerging digital skill gaps across the workforce and in particular, in the Small and Medium-sized Enterprise (SME) sector. As technology continues to advance there is a systematic gap emerging between industry needs and current digital competences amongst employees. Research shows that SMEs more specifically are facing significant barriers in acquiring and developing these skills (European Commission, 2021). Accredited short-form flexible learning opportunities have a role to play in sustainably addressing these skill shortages. Initial findings from an industry needs analysis being conducted at both a European and local (Irish) level will be presented. The findings hold important implications for educators as we seek to design and develop relevant short course offerings for professional learners. This work will be contextualised as a core part of the EU-funded project DigiAdvance which aims to address digital skill gaps in the SME sector through the provision of a suite of flexible, short courses for SME employees across Europe.

Using an online escape room in the teaching and learning of mental health diagnosis with future psychologist practitioners.

Eleni Petkari · eleni.petkari@unir.net · Universidad Internacional de La Rioja · Associate professor Psychology

Ana Calvo · anabcalv@ucm.es · Universidad Complutense de Madrid, Spain

Establishing a mental health diagnosis is one of the most important elements in the curriculum of future psychologists. For this, it is essential to apply innovative and dynamic methods that enhance the teaching and learning experience and impulse the professional self-confidence of these students. Gamification may offer a strong candidate to fulfill these aims, and, strikingly, it is barely used in the field of psychology. This talk presents the implementation of an online escape room with 307 MSc psychology students (84,3% female) of two Spanish universities. The escape room was offered as an asynchronous and individual activity and had a sequential puzzle format. Students were virtually situated in a library and had to help their avatar colleagues to solve missions related to case studies. The participants completed questionnaires with ratings on self-confidence and perceived difficulty with the diagnostics, and qualitative evaluations of the escape room before and after the activity. Students significantly increased their confidence

with the diagnosis establishment, though they did not reduce their perception of difficulty. Importantly, the escape room was well received, with positive feedback expressed with the learning process. The findings encourage the inclusion of gamification methods in the curriculum design of future mental health practitioners.

Educational Determinants of Mental Health

Lawrence White · lwhite@auroracollege.nt.ca · Aurora College Coordinator, Program Development & Evaluation

Generation Z, or young people born between 1995 and 2010, are arriving on the world stage as they collectively participate in post-secondary education and the workforce. As they qualify to vote and begin to occupy leadership roles in government, business, and non-governmental organizations (NGOs), they will chart the course for humanity and the planet. They are the conduit to future generations. That said, their disenfranchisement is exemplified by a direct and negative correlation between their age and overall happiness. Further, in Canada, 94% of higher education learners claim academic stress as being sufficiently acute to affect their mental health and that of their peers adversely. In this Concise Talk, explore the importance of education as a determinant of mental health and, by viewing education in this way, as a means by which to prepare learners for an increasingly uncertain and unpredictable world.

Main results of a communication model of a typology of analysis of higher academic writing in Spanish

Benito Ilich Suárez Bedolla · benitoilich.suarez@unir.net · Universidad Internacional de la Rioja en México · Research technician

There is a lack of comprehensive criteria for the analysis of university academic writing in Spanish within the specialized literature, based on which 11 variables were identified and used together in a content analysis that classified the teacher's comments to 238 homework submissions of 81 students belonging to the continuous evaluation of a course on persuasive communication. The original function of the comments was to justify their respective ratings. The results of the focused data collection and systematization techniques (content analysis and self-study) were subjected to a two-step cluster analysis. Five clusters were obtained, which express the same number of homework submissions profiles (typology), only one keeps identity with the alternative conception of communication, because the number of tasks located in this profile (n=56), expresses in good measure a compliance with what was pre-established in their respective instructions, while the number of tasks located in the four remaining profiles (n=182) express a dominant conception of communication, depending on the different and progressive degrees in which they depart from the same instructions that the teacher checked. The pragmatic motivation of the model addresses aspects of the field of communication theory as well as individualized teaching through the integration of multivariate analysis.

Leveraging open and distance education to enhance student success: a perspective from Aotearoa New Zealand

Giselle Byrnes · g.byrnes@massey.ac.nz · Massey University · Provost

This concise talk addresses the conference theme of Global Inclusion and Social Equity through OFDL, specifically, the importance of educational inclusion. It also touches on the United Nations' Sustainable Development Goals 4, 10 and 16. The talk provides an overview of a whole-of-organisation initiative to advance student success outcomes at Massey University Te Kunenga ki Pūrehuroa, a large public university in New Zealand, where more than 65% of students are studying either fully or partly online. It outlines the conceptual underpinning of this work, as well as offering reflections on practical strategies to lift and drive engagement through distance-centred pedagogy and online learning platforms. Massey University Te Kunenga ki Pūrehuroa is a research-intensive, multi-campus university. As a leading distance education provider, prioritising access and equity alongside excellence, Massey has a distinctive character and mission in the New Zealand higher education sector in its commitment to support tauira (students) wherever they are and however they choose to study. Finally, the talk offers insights into emerging issues and challenges from a New Zealand perspective, including shifts in student learning expectations, considerations of equity and widening participation, and the ongoing impacts of COVID-19.

A Systems Approach to Open Learning Implementation

Jack Rice · jhrice@stfx.ca · St Francis Xavier University · Director, StFX Online

Kristalyn Anders · kanders@loyola.edu · Loyola University Maryland

Higher Education has a long history of providing education that is expensive and inaccessible. The advent of educational technology has provided a window into a future that is more equitable, with a greater capacity to impact a wider audience of learners (Xiao, 2021). Further, online education's adoption of universal design for learning principles has returned educators to the fundamentals of student-centered instructional design (Rao, 2021). One could argue that we stand on the precipice of a golden age of teaching and learning. However, educational systems are notoriously policy resistant, and a systems lens will be valuable to apply if we hope to make much need innovations persist. St. Francis Xavier University in Nova Scotia, Canada has a strong reputation as a primarily undergraduate, liberal arts university. Yet, as we re-engage with our mission to provide quality education and research opportunities for our students to explore the world, our structures must evolve to create more nimble pathways for modern learners. In 2023 the launch of STFX Online and its new Open Learning platform will be studied with a view to both the opportunities and constraints provided by Open Learning access and Open Educational Resources. Reflecting on innovative approaches to community engagement is essential as we look to define, measure, and grow the impact of open learning structures. The case study will provide an example of the change management required across campuses to embrace new modalities and access points. Can Open Learning exist within an institutional framework that is rigid and hierarchical? What new sensibilities must instructors possess in dealing with a more diverse set of learners from disparate backgrounds? As we reflect on the challenges our modern

societies face, are our current structures still serving the needs of our communities? Most of the challenges and opportunities offered by open learning are predictable. The bias towards face-to-face instruction, the reticence to engage with a broader, less prepared student body and the perceived threat to institutional brands and legacy provided risk to be mitigated. However, the true value of open learning we discovered were the connections with community and industry associations that re-engaged with our institution. This process started new conversations about the universities place and value to our community which over time will expand both our reach and our influence.

Enhancing the Learning Experience with Artificial Intelligence

Agustín Gómez Meléndez · agomezme@uned.ac.cr · UNED · Investigador

The integration of artificial intelligence (AI) in higher education is a topic of great relevance today. As an educational researcher and data scientist, I believe that AI has the potential to transform the way teaching and learning is conducted in universities. In this sense, its impact is evident in the transformation from the classical model of education to an advanced model of teaching. AI can be applied to various aspects of higher education, including personalized learning, content adaptation, evaluation, and tracking of student progress. For example, through AI, content can be adapted to the needs and learning preferences of each student. This improves the quality of learning and academic performance of students. Another important aspect of AI in higher education is evaluation. Through AI, more precise and objective evaluations can be conducted. Additionally, AI can be used for tracking student progress, allowing educators to identify areas for improvement and provide timely feedback. This helps students improve their performance and develop critical skills for their future careers. On the other hand, AI can also be used to improve efficiency and productivity in higher education. For example, AI can be used for automating administrative tasks such as schedule management and student enrollment management. This allows educators to focus on more important tasks, such as teaching and research. AI can also be used for the development of new educational tools and technologies, such as virtual and augmented reality, gamification, and virtual assistants. These tools can be used to improve the learning experience and increase student motivation. Additionally, AI can be used for the creation of personalized tutoring systems that can help students learn more effectively. AI has the potential to transform the way teaching and learning is conducted in universities, learning can be personalized, content can be adapted, evaluation and tracking of student progress can be improved. Additionally, AI can improve efficiency and productivity in higher education and be used for the development of new educational tools and technologies. Overall, AI is a tool that can help improve the quality of learning and academic performance of students, making its integration into higher education of great importance.

At low tide... or what teachers took away from their distance education experience

Cathia Papi · cathia.papi@teluq.ca · TÉLUQ University · Full professor

During the first months of the pandemic, TÉLUQ University played a major role in supporting all teachers in Quebec (and beyond) by creating the J'enseigne à distance (I teach at a distance) training programme. This programme, created in four months, includes four microprograms (support, disseminate, adapt and evaluate) for the different sectors of education. The modules were put online as each was created and have been consulted by more than 300,000 people. Now that in-person teaching has resumed for over a year, to what extent does this training still have an impact on teaching practices? We propose to reflect on this topic in light of the results of an April 2023 survey sent to people who participated in the programme. Although the majority of them now teach in person, more than half of them indicate that they use what they learned during the training sometimes or often, or even daily. Most of the respondents report having modified their teaching resources, learning activities or teaching and coaching methods since the pandemic. Thus, the transition to distance learning seems to have promoted certain changes in practices.

Improving graduate distance education programs' quality through program evaluation

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Program evaluation within distance education is an important process with the potential to offer invaluable insights for improvement, accountability, decision-making, and student success. Using John Dewey's Cyclic process of reflection, this qualitative study reports on our experiences of the internal and external processes involved in evaluating a graduate program at an ODL institution in an emerging economy. The processes were guided by the country's Council of Higher Education – Higher Education Quality Committee (CHE-HEQC) generic criteria, benchmarked against international standards. The criteria addressed institutional alignment; student recruitment, selection, admission and support; staffing and other resources; teaching and learning strategies; context and conditions for assessment; and program effectiveness and impact. Sources of evidence included a self-evaluation report (SER), supporting documents, documentary videos, and stakeholder interviews. Findings showed the program's relevance, especially given the recent world COVID-19 pandemic, and the extensive involvement of the management team to enhance its quality and alignment with similar international programs. Recommendations include the need to correctly identify the specific target audience for the program, coupled with a more robust marketing drive to sustain it; increasing administrative and support sectors' staff strength; improving on its student and alumni support, and introducing decentralized program monitoring and evaluation strategies within the department's Quality Assurance Enhancement office to measure program effectiveness and impact properly.

Exploring our Open Educational Practices in Support of Excellence in Graduate Education

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Using self-study methodology and collaborative autoethnography, we conducted a collective, intentional, systematic critique of our academic practice to improve our teaching, learning, and supervisory activities with graduate students within an online and distance learning context across two disciplines. Our research questions were: what open educational practices (OEP) do we use with graduate students, what are the outcomes for students and for ourselves, and how can we improve our practice? Focusing on our competencies, strategies, and outcomes, we explored our OEP and the values that underpin them. Data collected over two years came from four sources: critical reflections on our values and practices; coded literature annotations related to our conceptual framework; dialogic conversations investigating practice; and individual archival materials and artifacts. Our diverse perspectives, and willingness to challenge each other, added rigour to the analytic process. We determined that our practice prioritizes process and people rather than resources. Our findings relate to the specific OEP we use in our teaching, supervision, and course design and the mutuality of positive outcomes for students and for ourselves. We offer ideas for self-improvement, a refined definition of OEP, and several relevant practice- and theory-oriented contributions to scholarship.

A Systematic Review and Meta-Analysis of Social Presence in Higher Education Online Environments

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This concise talk describes a systematic review and meta-analysis of the construct social presence as applied to online learning in higher education. The research objectives are i) to determine the holistic effects that scale-based measures of social presence have on student learning and student satisfaction outcomes, and ii) what study characteristics (i.e., course design elements, instructor behaviors', and online learning environments) explain and moderate the variability in the results. The research literature, from 1995-2022, was examined with a three-stage screening process used to determine the adequacy of studies for the meta-analysis. In total 12455 records were initially screened in of which 631 records were identified as potentially relevant and were reviewed in detail. Subsequently, 157 studies were identified as possibly meeting the inclusion criteria and after a full text read 58 studies were deemed appropriate for the meta-analysis. A random effects model for analysis was chosen for the two outcome measures with moderator characteristics coded. Results confirm the importance of social presence in predicting student satisfaction and learning outcomes and illustrate how study characteristics can moderate the effects. Recommendations for rigor in research design are advanced so subsequent investigations on the evolution and improvement of social presence can be empirically validated.

Bachillerato en Emprendimiento y Empleabilidad en Costa Rica: prototipo para la innovación, la inclusión y la equidad social.

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El programa Bachillerato para el emprendimiento y la empleabilidad es una oportunidad para incluir a la población adulta descrita anteriormente, su propósito será la formación educativa en competencias digitales, idioma y gestión de proyectos mediante actividades auténticas, a fin de favorecer un contexto emprendedor. De modo que, la UNED cuenta con amplia experiencia y es líder en procesos educativos bajo un modelo a distancia en la educación superior y en la formación media para personas adultas, caracterizándose por ser respetuosa de la andragogía, la equidad, la inclusión, así como del acompañamiento de personas emprendedoras en contextos virtuales. Esta propuesta tiene gran potencial en el marco de la iniciativa Costa Rica Nación Emprendedora, que promueve condiciones para la cultura y la educación del emprendimiento por medio de la creación de capacidades y oportunidades que contribuyan con la gestación y crecimiento de nuevos negocios.

Shared metacognition and student engagement in an comprehensive open distance e-Learning environment

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The feeling of isolation in online learning is one of the main difficulties students experience. It is, therefore, crucial to implement learning strategies to keep them engaged with the module content and create a feeling of community. This study aims to determine the relationship between metacognition (self and co-regulation) and student engagement. The Shared Metacognition questionnaire and the Online Student Engagement Scale (OSES) were used on a sample of (N = 626) enrolled honours students at a Comprehensive, Open, Distance and e-Learning (CODEL) University in South Africa. A quantitative online survey and correlation analysis were used to determine the association between shared metacognition and online student engagement. The results indicated that metacognition related positively and significantly to student engagement. Furthermore, the results indicated that metacognition influences student engagement. The results corroborate the theoretical hypotheses that students' metacognitive abilities predict their online engagement and must observe before applying what they have learnt into practice. Essential elements of student engagement include collaborative interactions, application and observable learning behaviours, and a student's metacognitive skills.

Shared co-creation

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The present experience arose from the need to support intensivists during the pandemic generated by COVID-19. The cooperative work that was carried out between people from public, private, autonomous (UNED) institutions and members of civil society, both national and international, made it possible to create, register and donate biomedical equipment and material. The development strategy was recognized as a global example of co-creation that was shared openly by the OECD (documents attached). And from it the Medical Modules were born, an audiovisual resource that is aimed at all people in the medical area who wish to learn about digital fabrication and the enormous opportunities it brings to their area of work. These resources will also be shared openly.

Blended Synchronous Learning in Voluntary Education

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This concise talk presents a project on blended synchronous learning within the context of 'folkbildning', the liberal non-formal and voluntary educational system in Sweden. Blended synchronous learning is, in this context, described as a synchronous learning activity combining in-person and online participation (Bower et al., 2015; Raes et al., 2020). The project explored the technical, pedagogical, and leadership prerequisites for implementing blended synchronous sessions in this unique educational setting guided by the Community of Inquiry framework (Garrison, 2017). The research method used was action-based (Reason & Bradbury, 2008), with data collected using observation and semi-structured interviews with teachers, students, and leaders in the voluntary education system in the Östergötland region of Sweden. The project's findings verify the potential advantages of blended synchronous learning, emphasizing its accessibility and flexibility. Notably, this mode of education is also familiar enough to regular in-person education teachers and students with limited experience with online learning. However, our research emphasizes the importance of designing, facilitating, and guiding the learning experience to foster a cohesive community of inquiry and counteract the formation of a segregated environment where in-person participants dominate while remote participants feel isolated.

Postgraduate student involvement in the development of sustainable Open Education Resources

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Open education resources (OER), which are free, technology-enabled resources, open for use and adaption have many benefits for higher education. Benefits that have been widely documented are the ability to expand access, cut costs, and improve the quality of teaching and learning. However, the question remains how OER can be developed sustainably to support both teaching and learning? The role of OER has evolved since its first use at a UNESCO workshop in 2002. The first generation of OER is characterized by lecturers placing their notes online for free use, with a focus on teaching. The second generation of OER is associated with free self-instructional materials, with a focus on learning. The third generation of OER sees the convergence of teaching and learning, during which OER is developed collaboratively and shared freely. It is within this generation that we, as the lecturers of a structured master's programme in Education developed an OER with our current and previous students, using our lecture notes as well as students' assignments. Although we were already using OERs and open texts, they were not contextualised and mostly from developed contexts. The purpose of this paper will be to report on the pre-development process and post-development process. We documented the process to determine if students, with their different contexts, experiences as students, and subject and technical knowledge, could be a valuable resource for lecturers eager to collaboratively develop OER. We will also report on their perspectives based on informal meetings on Teams during the process and post the end of the process.

Kwe l'Université! A "Pre-University Program in a Box" for Indigenous People Considering or Pursuing a University Education

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Two main findings are at the root of this project. First, universities, which sometimes exacerbate cultural discontinuity for many Indigenous people, contribute to the shock that many students experience upon entering graduate school. Secondly, some Indigenous people face pedagogical challenges that are not well defined and are not accompanied by solutions. We also note that many Indigenous students begin university after a break of sometimes more than five years in their academic career. In this situation, some have lost the necessary competencies for being a student. The concepts of needs identified by Indigenous people, respect for their traditions, close collaboration with them and cultural safety served as guiding principles for the iterative and participatory development of the Portal. The Portal hosts a university preparatory training program comprising three modules aimed at developing student competencies. In a transformative perspective, other modules will be designed in future iterations, and their themes will depend on the demand of the users, who will express their pedagogical needs through an online prioritization tool. This tool is one of the original ways that the team put

forward to involve Indigenous students at all stages of the project. This active participation in decision making is also demonstrated by the fact that the Portal prototype is being consulted in various Indigenous communities. It should be noted that the features of the Portal are based on a preliminary needs analysis conducted by the team. This analysis encompassed research, discussions with Indigenous team members and, most importantly, the shared experiences of 58 adults from nine First Nations. The latter responded to a questionnaire designed to identify their needs in relation to entering, continuing and completing university. These varied sources of information allowed us to identify the issues and challenges that the project aims to address. First, while many Indigenous people must balance school, work and family and wish to remain in their community, the design of a remote portal will allow them to prepare for studies without prolonging their time away from the community. It will also increase the accessibility of higher education and foster student perseverance. Secondly, less than 40% of Indigenous households in Quebec have high-speed Internet access. This can be a barrier for those who wish to pursue studies remotely. To overcome the lack of access to a fast and reliable network, the team developed a “pre-university program in a box.” This technological solution provides online training without the need for an Internet connection. However, because a significant proportion of Indigenous students have regular or occasional access to the Internet, we also developed an online version of the program. The final product is intended to be a “virtual laboratory” where students in educational technology and distance education will develop other modules to enrich the Portal, in a box and online. We propose to discuss the challenges and opportunities that this project has offered, and the potential benefits for social equity.

Coordination and collaboration in digital education actions and policies at the Universidad Nacional del Sur. The case of Open Educational Resources.

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The joint work between the Central Library, the Distance Education Area and the Distance Education Advisory Commission of the Universidad Nacional del Sur, resulted, among other actions, in the development of a Digital Institutional Repository (DIR) of Open Educational Resources (OER). The project allowed the implementation of an institutional policy for the definition, design, production, licensing, storage and preservation of OER. The actions included training on the preparation of OER, calls for the creation of OER, the creation of a collection of OER in the DIR, the establishment of a common agenda between the Argentine Interuniversity Network of Libraries and the University Network of Distance Education of Argentina and contributions to a document with “Guidelines and proposals within the framework of the processes of reconfiguration of pedagogical options (face-to-face and distance)” approved by the Executive Committee of the National Interuniversity Council and which poses the challenges

for academic policies that must be faced the Argentine University System in the post-pandemic scenario. Within future work, the need to increase visibility, promote interoperability and reuse of OER and the creation of a master's degree in Digital Education is detected.

Interactive simulations for environmental education

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Eco-explorers: taking care of our planet is a learning experience (XA) for the Environmental Problems subject. In this educational material the students to the Primary Education career can observe the behavior of different environments on Planet Earth and the consequences or benefits of their care. At the same time, they can interact with the different 3D elements, and perform different actions, all this through experimentation. This talk will introduce how the student can, through different activities, stay more active and motivated in the approach to environmental issues; and how learning objectives can be achieved in a more versatile and less predictable way. The exhibition will address the creation process from the conception of the problem, the creation of a script, to the design and development of simulations suitable for primary education environments.

Insights into Learning Analytics for Students with Disabilities: A Brief Overview

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UNESCO has Increasingly promoted the establishment of equal, fair, and open educational settings, including for those with disabilities. The United Nation Convention on the Rights of Persons with Disabilities vouchsafed human rights for those with disabilities to be included in education as well as lifelong learning. Though efforts to increase inclusivity and dismantle discrimination for students with disabilities should be applauded and sustained, there is a need to move beyond inclusivity to equity. This is more demanding with new technologies in education rising such as the applications of analytics, Artificial Intelligence, and ICT in learning. Attempts to make digital learning more accessible, and promoting inclusive practice, still suffers a considerable gap between the current state of the art research and practice and a fully inclusive higher education. In this concise talk, I will present briefly our findings of a systematic literature review in which we focus on one aspect of new technologies in learning, namely Learning Analytics and answer the following research question “What is known about learning analytics in promoting inclusiveness and supporting students with disabilities?”. The talk will emphasize the significant demand for implementing new technologies, particularly learning analytics

applications, in an inclusive manner, with a specific focus on ensuring equitable opportunities for disadvantaged students.

A brief history of the United Kingdom Open University's North American office

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The United Kingdom's Open University (OU) established a North American Office during the early 1970s. This cross-continental endeavor has been overlooked in the published history of open, flexible, and distance education. Using archival documents and historical methodology, this presentation will share how the OU attempted to create partnerships with American universities to assess the viability of selling course packages and creating a permanent consultancy service. This presentation will also share results of a pilot project with three American universities during 1973, summarize the impact of the short life of the OU's North American Office, and suggest implications for the future of educational collaborations that are dedicated to openness.

Conditions and practices favouring access to distance learning (DL) for further learning in the youth sector

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In 2020, Barbour, Labonté, Nagel and Mongrain published a report on the national situation of e-learning in K-12 (kindergarten to grade 12) in Canada. They point out that in Quebec, during 2020-2021, around 28,000 students were able to access blended or hybrid learning services. In fact, between 2018 and 2020, various pilot projects were set up in the youth sector education network for a total of 4,210 participating schools (Ministère de l'Éducation et de l'Enseignement supérieur, 2022). For 2020-2021, the Ministry planned 1,682. The speakers in this paper were involved in one of the pilot projects, on distance learning (DL), one of the aims of which is to identify educational models based on the three main types that have emerged in recent years (face-to-face, distance and hybrid). More specifically, they are attempting to provide the beginnings of answers to the following questions: 1) To what extent does distance learning make it possible to respond better to the specific needs of school students? 2) What types make it possible to support the continuation of their learning? For those purposes, a Professional Learning Community (PLC) was set up, involving various members from the education sector. By drawing on their expertise and experience, including an innovative perspective, and by sheer force of numbers, the PLC was able to identify ways of providing adequate and effective support

for school students' continued learning. Finally, this paper presents the partial and preliminary research results of this DL pilot project.

PROMADE's production process of written didactic materials: a unique model in the region

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Proposal for a short talk on the production process of the written didactic materials used in the academic offer of UNED. It would explain how this process is carried out (stages and participants of the production team). This is one of the hallmarks of the UNED model in Costa Rica and the ICDE conference is the ideal setting to show this particularity of the UNED distance education model. The production process of written didactic materials at UNED can be replicated and form part of an open, flexible, and quality distance learning model, as a best practice, since by developing the production of materials internally at the institution, It allows providing the student body with tailored materials, according to the characteristics of the curricular design and the exit profile, as well as high quality materials since a multidisciplinary team participates and a series of controls are established to ensure their quality.

Empowering Future Learning Organizations through Structured Digital Transformation

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In the midst of ongoing digital and societal metamorphoses, learning organizations stand at the precipice of transformative opportunities. Our Concise Talk encapsulates key insights from our forthcoming book, advocating for the strategic orchestration of digital transformation within these organizations. Centered around the subtheme of Digital Transformation, we unpack the concept of a strategically guided digital transformation initiative, emphasizing the pivotal role of an effective Steering Committee. We delve into how such an initiative can shape strategic objectives, allocate resources, manage risk, and monitor progress, thereby aligning digital transformation with long-term organizational goals and societal sustainability. Additionally, we explore the intersection of digital transformation with issues of digital equity and inclusion, outlining how organizations can responsibly navigate this paradigm shift. Our presentation seeks to equip decision-makers with comprehensive, practical strategies to guide their institutions toward a sustainable and ethical digital future.

Translating research to teaching: the findings that informed a development of an educational resource to support learners navigate their studies alongside work and/or family

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At the global level, lifelong learning as a priority is articulated through Goal 4 of the Sustainable Development Goals. 'At a crossroad: navigating work and/or family alongside study' is a free open educational resource, aimed at university students with multiple role commitments, available via the Open University's OpenLearn platform. Different pieces of research informed the development of the interactive. A mixed method survey was completed by 348 distance education students. The qualitative responses documented different challenges experienced by students in managing their studies alongside other commitments, but also the importance of strategies such as drawing on family members and planning. One recommendation from participants was universities could provide advice on how students could navigate difficult conversations regarding their studies with family members and employers. To further inform the interactive we conducted story completion research in which we asked participants to describe what they imagined would play out in a provided scenario about a fictional student struggling with their university assignments due to time pressures. In the story completion findings a main theme was emotions and feelings. Common feelings described in stories included the main character feeling anger or disappointment at themselves, panic and fear or guilt.

Implementing effective videoconferencing in online learning: the digital wellness lens

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While videoconferencing may enable us to be better connected in the virtual space than ever before, unbalanced and often excessive interactions with digital technologies might deter successful learning experiences and outcomes. The present-day online learning context is threatened by digital distraction caused by information overload, disorder (mis-/disinformation) and disconnection amongst other technological and pedagogical challenges. These digital distractions can negatively impact the learning experience comprising students' digital wellbeing, i.e., students' digital habits and practices contributing to their learning and holistic wellness and lead to poor learning outcomes and instruction. We have conducted a systematic review to address: What are the guidelines for effective videoconferencing learning design to support digital wellness in online higher education? Using the preferred reporting items for systematic reviews and meta-analyses (PRISMA), we aimed to reduce bias and draw reliable conclusions for educators to implement videoconferencing guidelines within their own contexts and practice. We searched five databases to evaluate peer-reviewed videoconferencing studies across formal higher education settings, published in English between 2011 and 2023. Our findings are organized using a whole-learner lens and include, among others, the following

themes: agility, purposefulness, social presence, inclusion, cooperation, respect, and safety. We share the resulting videoconferencing design guidelines and examples of their implementation.

Designing Online Courses to Foster Digital Wellness

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Learning is increasingly occurring in digital spaces, mediated by digital networks and devices which filter our experience and affect our ways of engaging, inquiring, researching, and documenting our knowledge. The design of digital platforms and their content, combined with how we behave and feel in digital spaces have real consequences on how we interact with others and with information, and ultimately how we learn. Apart from the overwhelming amount of data and number of tools that we are exposed to, the key stressors identified by online learning researchers involve technical difficulties, diminished learner capability and confidence levels, time challenges, distractions, frustration, anxiety and confusion, limited digital and attentional literacy skills. In this presentation, we introduce the Digital Wellness for Online Learning Design (DW-FOLD) Framework which has stemmed from the multi-phase research initiated in 2018 in the context of graduate online courses. The proposed practice-oriented framework aims to furnish online educators/instructional designers with a guide to promote learner success and holistic wellbeing thus equipping them with better coping skills amidst digital disarray. The various dimensions of digital wellness (DW) will be discussed alongside examples of DW strategies. The DW-FOLD Framework could scaffold online students and their cohorts in higher education toward the realization of their fullest potential, not only cognitively but also physically, emotionally, socially, mentally, and spiritually.

Exploring narratives of motherhood and the doctoral journey

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This paper shares reflections from our forthcoming edited book: Hoven, D., Farrell, O. (Eds) *Motherhood and the Doctoral Journey: Recipes for Success and Survival*. The aim of the book is to document and explore the experiences of mothers and their journeys through doctoral studies. Using case studies of autoethnography as the methodology, this book shares the voices of sixteen mothers from Europe, Canada, Australia, South Africa, Ireland, the UK, and the United States at different stages of the doctoral journey, studying through the modes of distance, online and/or part time. The challenges these women face are underexplored in the literature but are crucial for broadening participation of women in the higher education system internationally (Mason, Bond, Ledger, 2023; Brown & Watson, 2010; Webber, 2017). Mothers pursuing doctoral degrees face multiple challenges, including balancing their diverse caring responsibilities with family, study, and work, while feeling isolated and excluded from the institutional culture and support systems which can manifest in hiding academic and personal struggles (Brown & Watson, 2010; Onwuegbuzie et al., 2014). In this paper, we will share our experiences of editing

the book, our indicative findings and recommendations on how higher education can better support mothers who are doctoral students.

Impact on the relevance and educational inclusion of distance programs in Library Science at UNED – Costa Rica: 2010-2021

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The evaluation of the relevance and educational inclusion of the distance modality of the UNED in library science careers reap important effects and impacts after its implementation that favors the territorial coverage of the offer throughout the country, which for decades was considered the main problem that did not allow meeting the requirements of professionals in remote areas. In the year 2022, an evaluation of the social and educational relevance of the programs was carried out, which was developed from the mixed approach and supported by the analysis of three dimensions: educational and social inclusion and generation of knowledge, the Census was used as the evaluation baseline. and Diagnosis of UNED School Libraries (2013), data from the National Public Library System (SINABI), reports of diplomas awarded, reports by gender of graduates, career study plans and analysis of the production of Final Projects. Graduation by subject and geographical distribution. The main effects and impacts evidenced are the availability of human resources in library science in most of the national territory and the main employer, which is the Ministry of Education, has 53.4% more suppliers in remote areas of the country to cover an unsatisfied demand for professionals. Educationally, the programs are successfully completed up to the baccalaureate and the demand for graduation from the degree is less motivated because these positions are not located in remote areas, despite this condition, many students conclude the degree for their own professional development and 92% of the Graduates are women, favoring professional inclusion. In the production of Final Graduation Projects, 60% address specific problems in their territories and 54% thematically focus on central issues related to the discipline, expanding the object of study and applying theory to social praxis. It is concluded that the main contribution of the distance education offer is the expansion of coverage to the territories; incorporation into the professional market of the population of women, contributions to the attention of the problems of the communities and a development from the social praxis in the investigation in librarianship.

Learning Designers are the “sherpas” of higher education transformation

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The role of Learning Designer now represents the fastest growing job in higher education. This paper reports on a research project called Being and Doing Learning Design (<https://learningdesigner.ie/>). This project aims to trace the footsteps of Learning Designers and shine a light on their transformative role, often under challenging conditions as unsung heroes of higher education. From a phenomenological perspective, the study seeks to walk through the snow, climb across collapsing crevasses, and battle blizzards and powerful winds of change through the lived experiences of Learning Designers. A wave of recruitment of digital learning designers occurred during the pandemic and were heralded as online learning’s “sherpas” and “first responders” (Decherney & Levander, 2020). Nonetheless the role and experiences of these professionals still exists in the cracks and crevices of the teacher and student narratives. Significant gaps exist in our understanding of these vital brokers, or “third space” professionals, including what their professional and career needs are (Whitchurch et al, 2021). In particular, there is a dearth of research into professional identities of learning designers in Ireland and the United Kingdom post-pandemic. This paper describes a mixed methods research study focusing on digital learning designers in UK and Irish universities, which is framed by the following research question: What is it like to be a Learning Designer working in Higher Education? This project draws upon related work (Altena, 2019) into the lived experiences of learning designers around, which looks at their work and identity through the lens of being and doing. This paper will share our emergent findings from research to date and should be of interest to educators from many different countries as we look to scale new heights in digital models of higher education.

A Pedagogical Approach for an Equitable Online Learning Ecosystem: Health Equity through Education Project

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The Erasmus+ Project Health Equity through Education (HEQED) aims to support higher education institutions in building competence in health equity by creating an innovative, accessible, equitable, open, online learning ecosystem that is based on storytelling and can be adapted to various contexts and learners. To achieve that the HEQED project has developed a pedagogical approach that theoretically and philosophically aligns with health equity and its grounding in human rights health justice. The approach is emergent and pragmatic and is based on multiple perspectives. Capability and agency are the theoretical foundation for looking at both health equity and learning. Learning as health equity is an ongoing process that starts with critical conscientiousness. This means developing skills and knowledge to recognize opportunities and possibilities, to create autonomy and freedom to bring opportunities to action. The HEQED pedagogical approach, linked to the European Qualification Framework, recognizes that knowledge is constructed by students through participation in learning activities that enable them to actively make choices, decisions and self-direct their learning. The HEQED online learning ecosystem has been developed based on this pedagogical approach. It elevates authentic experiences through storytelling (picture, text, video) and allows students to learn through analysis, reflection, and action.

Remixing the Digital Education Playlist: Turning a New Page on Foo-Foo the Snoo

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This paper critically reflects on the 7th edition of the annual NIDL top 10 “good reads” in open-access journals in the field of digital education. In telling the story of open scholarship through the lens of this annual curated playlist of good reads, the paper illustrates several new and emerging trends in the literature. It also reveals the diverse nature of open scholarship. Reflecting on seven years of this exercise, participants are invited to consider how we can better engage busy educators in critically reading and reviewing the published literature to bridge theory and research with good practice and back again. Metaphorically speaking, taking inspiration from Dr Seuss (1978), the intention is to look beyond “Foo-Foo Snoo” by exploring new digital possibilities for engaging time-poor educators, researchers and policy-makers in

critically reading the literature. In response to this challenge, potential new initiatives designed to spotlight fresh reads and develop a “readers collective” in the field of digital education are presented for consideration. Constructive feedback is sought on ways to extend the “top 10” initiative to foster critical conversations that help stay abreast of the burgeoning literature, including developing a digital education journal club. A brief synopsis of educational research on journal clubs is provided as we consider more innovative options to open a new page on “Foo-Foo Snoo” to support critical professional reading.

European Online Learning Partnership to Improve Refugee Health

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In 2022, over 108 million individuals, including 38 million refugees, experienced forced displacement due to war, violence, persecution, or climate crisis. While resilience is observed among many refugees, a significant number encounters complex health challenges that require comprehensive health and social care services. Conversely, service providers acknowledge their inadequate preparedness to effectively support the growing refugee population. To address this urgent issue, the Erasmus+ Persons with Refugee Experience Education Project - Interprofessional (PREP IP) was established as a collaborative effort involving five prominent European universities, a center for migration health, and an international non-governmental organization. A key initiative of this partnership is the design of an online course that adopts an interprofessional approach to refugee health and will be freely available. Anchored in the four competence domains of the PREP IP framework (elevating narratives in practice, enhancing evidence informed refugee centric services, optimizing interprofessional team performance, and supporting the inclusion of refugees) the course aims to harness partners’ diverse professional and sectoral expertise, including the lived experiences of refugees, through online learning. This endeavor is anticipated to enhance the availability and accessibility of refugee health training within Europe and beyond its borders, thereby striving to improve its overall quality.

International and interprofessional online learning: Three challenges in implementation of Master in Healthy Ageing and Rehabilitation

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In 2020 Western Norway University of Applied Sciences launched the online Master in Healthy Ageing and Rehabilitation program as a response to the projected workforce needs in the rapidly ageing world. Ageing population globally requires comprehensive health system solutions implemented by the well trained interprofessional workforce. The program was informed by collaborative-constructivist view of learning with the aim of preparing students to address this global challenge locally. It was built on foundational decisions to use community of inquiry as a theoretical and design framework, and critical perspectives to examine global trends and approaches. The online program attracted students with 18 different professional backgrounds from 28 mostly low- and middle-income countries. The first cohort of students graduated in 2022 and the second completed the first year. The foundational decisions were useful for building an international and interprofessional learning environment. They guide us in the program review and revision. However, we face three implementation challenges: how to balance individual needs and choices of each learner with team learning and fostering community of inquiry, how to further de-centre western perspectives and introduce plurality of worldviews and ways of knowing, and how to provide more flexibility to learners with existing rules.

Cutting the Trail: Student Success in Remote Postsecondary Distance Education

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Despite the many efforts to improve educational environments for remote postsecondary students perennial problems of broadband capacity, limited access to programs, and needed supports persist. The geographical distance between students and instructors necessitates the use of distance education to improve access and equity to educational opportunities. Many forms of outreach have been tried, some with more success than others, depending on the

locations of each student, the pedagogies employed, and the supports provided. Improvements that resolve systemic issues are emerging as understanding of remote postsecondary distance education improves. A growing number of educators and administrators see the potential to improve systemic issues through various pedagogical and broadband solutions, however understanding which solutions are most equitable requires a deeper understanding of students, their needs, and their frustrations. To promote students' success, we need to understand what success is, how it is realized, and what gets in the way. This research focus on the experiences of an underrepresented population of postsecondary distance education students. Its contribution to knowledge lies in a deeper understanding of remote postsecondary students' perceptions of learning at a distance, given the various education formats and approaches used. This research seeks to expand an understanding about which elements within distance education foster success, with the intention of improving postsecondary environments and including non-traditional, remote student experiences in scholarship. By contributing information about remote spaces, advocacy from this research has the potential to inform, promote, and improve the quality of education. This presentation examines students' success in remote postsecondary education and draws on students' perceptions of their distance experiences from participants enrolled in, or recently graduated from, three distance programs offered at Aurora College. This presentation will summarize the findings related to students' success related to connections, relationships, and course content and will also describe pedagogical practices that best support students' success. Comparisons of programs, student profiles, and challenges will be summarized and shared. The presentation will conclude by synthesizing relationships observed between learner dependency, independency, and interdependency compared to high impact distance education indicators in remote populations.

Hyflex teaching at college: transforming the teaching task through instructional design

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The transformation of the teaching task is observed in a distance learning (DL) context. Parr (2019) states that, in the context of DL, the teaching task is fragmented "depending on the system in place and the maturity of the institution's distance education activities" [free translation] (p. 19). Henri, Paquette and Basque (2022) add that certain studies have shown that universities that have opted for distance learning have experienced changes affecting the organisation of the university itself, the teaching task and learners' ways of learning. The literature highlights the issue of the transformation of the teaching task in the context of distance learning, but is less specific about this transformation in hyflex teaching, particularly at college level. This is why the master's student researcher wanted to answer the following question: in a co-modal teaching context, how are transformations of the teaching task manifested at the college level through instructional design? This oral presentation discusses the results of a multiple-case study of five college teachers. The analysis made it possible to describe the teaching tasks related to instructional design by

the teaching staff in the context of hyflex teaching at the college level, to identify the preferred teaching approaches and practices and to find out the teaching staff's point of view on the transformations of the teaching task resulting from hyflex teaching.

Towards international digital higher education ecosystems for inclusive and sustainable futures. UNED steps

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Higher education institutions must collaborate and form innovative alliances to address the demands of the rapidly changing labour market and the profound societal transitions, face the dual challenges of digital and green evolution, and promote gender equality, inclusiveness, and equity, among other actions veered toward the fulfillment of the Sustainable Development Goals within the 2030 Agenda and beyond. In the European Union Erasmus+ programme framework, European University Alliances bring together European higher education institutions to foster international cooperation, student mobility and academic excellence, emphasising the importance of interdisciplinary collaboration. By working together, universities can pool their expertise, resources, and networks to prepare individuals to thrive in an interconnected world, offering more diverse and comprehensive educational programs that align with the evolving needs of society and achieving more significant results in addressing current global challenges. These alliances are conceived as a step towards creating a more integrated and connected European Higher Education Area, empowering individuals to contribute to creating a resilient and sustainable society. This communication will discuss the need and opportunity for a strong alliance between open, distance and online universities to develop an international digital education ecosystem, considering their long expertise in delivering quality, inclusive higher education in digital environments for non-traditional students. The Spanish National Distance Education University (UNED) contributions and steps towards making this alliance a reality will be presented here.

Worldwide Block: The BYU-Pathway Worldwide Model for Global Inclusion in Online Courses

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BYU-Pathway Worldwide (BYU-PW) improves lives through access to spiritually based, online affordable higher education. In order to fully meet the needs of students around the world, BYU-PW has created a worldwide block (WWB) model for designing and delivering online courses. The main purpose of the WWB model is to optimize international student success by reducing the time to a credential. The three main characteristics of WWB Courses are streamlined seven-week block curriculum, instructional teams, and a globally inclusive focus. The emphasis on worldwide inclusivity involves endeavors to offer open educational resources (OER), offline-accessible courses, language leveling, and the translation of courses into other languages. This talk will begin by describing the mission of BYU-PW and the challenges in course design and delivery that stemmed from that mission and its focus on global inclusion. An explanation of the development of the WWB Model and its main characteristics will follow. The initial findings and next steps for BYU-PW and its implications for other institutions will conclude the talk.

Weaving Threads of Understanding: A Reflexive Journey into researching Electronic Nonverbal Cues (eNVC)

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Unfolding in this presentation is my reflexive journey as a researcher-weaver, creating a tangible tapestry that embodies both my personal growth as a scholarly practitioner and the dynamics of my study on electronic nonverbal cues (eNVC). Employing an a/r/tography methodology, I delve into the interplay of verbal and nonverbal cues to understand their potential to foster deeper learning through interaction and engagement in asynchronous online course discussions. Learners' perception and acceptance of fully online learning promise the new normal for the post-pandemic lifelong learning.

Curating and Creating Open Educational Resources for an International Audience: A Collaborative Process

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BYU Pathway Worldwide and BYU-Idaho have embarked on a mission to provide course materials at no cost to international students. The necessity arose from the realization that in certain regions, students were sacrificing meals to pay for course materials, tuition, and internet access. Moreover, the challenges of expensive shipping costs and unreliable delivery services in many countries pose a significant barrier. It was imperative to ensure that students have access to course materials from day one. Because of this, a collaborative OER build process was instituted at BYU-Idaho and BYU Pathway Worldwide that involves a subject matter expert (SME) and a curriculum designer working together to create content maps that align outcomes with application-based assessments and OER. Various other perspectives are brought into the process to review content and provide feedback along the way. Noteworthy focus is given to maintaining concise chapters, eliminating U.S.-centric content and scenarios to enhance accessibility for diverse cultures. Additionally, a focus on incorporating religious-centered content is prioritized. This talk will highlight a comprehensive and inclusive approach to the curation and creation of OER that not only meets the needs of an international audience but also fosters an environment of equitable access to education.

Igniting Change in Digital Learning: A Global Coalition Approach

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Collaborative alliances across institutions and nations are crucial to the future of open, flexible, and distance learning (OFDL). However, the focus on local contexts in many leadership models often leaves the potential of global coalitions untapped. This presentation underscores the impact of such coalitions in driving equitable, diverse, quality learning experiences within OFDL. Delegates will gain insights from the Institute for Emerging Leadership in Online Learning (IELOL) Global program, a practical manifestation of how global collaborations can catalyze digital learning transformation. By the conclusion of this session, participants will understand the strategies pivotal to building global coalitions, fostering global transformative leadership ecosystems, and anchoring inclusive storytelling practices within lifelong learning models. Armed with effective frameworks and a well-curated set of resources, delegates will be better equipped to leverage global coalitions to drive transformative change in their local OFDL contexts.

Charting a Course for Quality and Equity in Digital Learning

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In the evolving landscape of open, flexible, and distance learning (OFDL), the need for quality and equity is paramount. This session examines the Online Learning Consortium's (OLC's) Five Pillars of Quality Online Education and the OLC Quality Scorecard Suite, emphasizing their pivotal role in shaping equitable and sustainable education in digital environments. Attendees will be encouraged to reflect on their own strategies for ensuring quality and equity at multiple levels, from individual courses to entire education systems. Key topics include the differentiation of online, blended, and digital learning definitions, and the emphasis on learning effectiveness. Participants will depart equipped to identify and address challenges to sustaining instructional continuity through quality digital learning, and apply effective practices for advancing equitable teaching and learning. The session aims to provide guiding principles supporting the variety of contexts where sustainable and equitable educational experiences occur, fostering a future of learning reimagined through quality and equity.

Asgards School in “the clouds”: Developing comprehensive online education at the lower secondary level for children with diverse needs

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The first school in Iceland providing comprehensive online education for children at the lower secondary level is Asgards School - “in the clouds.” It started in 2021 with 2 students. The following year they were 40 and will be about 50 in 2023-2024. The school's vision is that all children should have the right to equal educational opportunities and their needs be met. The curriculum is personalized and includes emphasis on active citizenship, resilience, curiosity and inquiry, contribution-orientation, respect and empathy, independence and cooperation. Learners study at different pace with various types of participation. Learning environment is Zoom. Organisation includes different group compositions, choice of visibility, steady feedback and the use of encouragement rather than imposition. Feedback from students reveals that many think this is the best school they have attended (even a life-saver). They think increasingly of learning as social. Some, who have had few or no friends have made friends. Evaluation study involving the school's program is planned by the Icelandic Ministry of Education in 2023-2024. The program can provide a model for an online school for children with diverse needs related to family travels, physical, psychological or social problems or school avoidance, language backgrounds or giftedness.

Developing Learning Ecosystems around United Nation SDGs to Create Study Abroad Experiences

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The purpose of this presentation is to highlight the development of a learning ecosystem across three different departments within a research institution to co-create a study abroad experience for undergraduate students. This collaboration included an Assistant Professor from the Research and Learning Services Department, Program Coordinator from the Center for Global Studies, and an Academic Advisor from the Honors College at Oklahoma State University. The created course was a “study away” experiential learning opportunity offered to Honors College undergraduate students. The course was centered within a state park and framed around the United Nation’s Sustainable Development Goals. During this course students explored the history of the state park’s creation through the Civilian Conservation Corps, visited and worked with conservation and ecology experts at a local trout hatchery, and explored archives at a local museum. Students also developed outdoor educational skills such as fly fishing, river ecology and management, and no trace left behind techniques.

Aula virtual UNAH Capucas: innovación para la equidad educativa y digital en Honduras

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El Aula virtual UNAH Capucas es un proyecto de innovación educativa de la Universidad Nacional Autónoma de Honduras que lleva educación superior en la modalidad virtual a jóvenes de la comunidad cafetalera de Las Capucas, ubicada en una de las montañas del occidente de Honduras y que por su ubicación geográfica no pueden asistir al Centro Regional más cercano de la universidad. Es una iniciativa que se desarrolla bajo los criterios de equidad, calidad y pertinencia. En 2021 se graduaron los primeros egresados y en el 2023 estudian 20 jóvenes en su mayoría mujeres.

Empowering Police Officers: A Participatory Approach to a Tailor-Made Online High School Program Aligned with SDGs in Mexico City

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This presentation outlines a comprehensive project, detailing a fully online high school program tailored specifically for police officers lacking a high school diploma. The presenters are the Director of the academic team at Mexico's National Autonomous University (UNAM), entrusted with curricular design and the seamless integration of online courses, and the Director of High School programs at Mexico's City Government, overseeing program operations. The talk will depict the graduation profile and the innovative methodology employed in crafting the curriculum and online materials. Additionally, the presentation will consider the project's budget, time, and operational constraints, along with the collaborative solutions devised by both institutions in a very short period. The central objective focused on nurturing graduates with a profound understanding of sustainability challenges, while fostering their ability to develop pragmatic solutions tailored to the communities they dutifully serve as public servants. The presentation seeks to emphasize the transformative impact of education on law enforcement officers, increasing their professional competence, and cultivating community-oriented initiatives aligned with the principles of sustainable development.

Alternate supervision for alternative and multi-modal doctoral dissertations

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Following the Canadian Association for Graduate Studies (CAGS) 2018 report and initiatives from the Carnegie Project on the Educational Doctorate (CPEd), universities are seriously beginning to explore what a multi-modal / alternate form of a dissertation might look like. What then are the student and supervisor characteristics that are useful or necessary in supervising and undertaking such research and creating such dissertations? This presentation will open for questions and suggestions looking further into the 21st century and beyond.

Creating a Framework for Developing Digital Learning Competences in Higher Education

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From the Universidad Estatal a Distancia in Costa Rica and the Universidad ECCI in Colombia initiated a research project aimed at creating a framework for the development of digital learning skills in higher education.

Workshops/panels abstracts

The Dos and Don'ts of Micro-Credentials

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The number of third level institutions incorporating micro-credentials into their suite of offerings is growing year on year and as a consequence each institution has their own insights, experiences, and lessons learned. This workshop aims to leverage and share the collective knowledge of our global online learning community in terms of developing micro-credentials and implementing micro-credentials at an institutional level. The session will focus on the overarching question “What works and what doesn’t when implementing micro-credentials?”. At a finer level, it will explore innovative approaches to quality assurance, stackability, learning design, enablers and barriers to implementation, successful and unsuccessful strategies for industry engagement, as well as other practical tips that can amplify the impact of these offerings for all stakeholders. While the moderators will facilitate activities to delve deeper into the do’s and don’ts of micro-credentialing, participants will have opportunities to share their insights and experiences and raise their own questions for a lively interactive and collaborative discussion. The workshop will bring together participants from a wide variety of countries and from various higher educational and learning contexts along with public, non-governmental and international organisations. The aim is to explore the USP and implementation of micro-credentials, identify best practices for institutions and potential paths forward for collaborative engagement. The workshop will commence by outlining the drivers and value proposition of micro-credentials in each participants context, a future visioning session of where participants see their institutions and how to leverage the enablers and barriers to realise this vision will be engaged in. Finally, we hope to establish the grown work to build a global micro-credential implementation network and to link to sub-networks which are emerging across the globe.

Retos y Desafíos de la Educación No Presencial en América Latina y el Caribe

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En el marco de la Conferencia Mundial del Consejo Internacional para la Educación Abierta y a Distancia (ICDE) 2023 a desarrollarse del 6 al 10 de noviembre de 2023 en Costa Rica, el Instituto Latinoamericano y del Caribe de Calidad en Educación Superior a Distancia (CALED), en colaboración con el Espacio Común de Educación Superior a Distancia (ECOESAD), Espacio Común de Educación Superior en Línea (ECESELI), Asociación Iberoamericana de Educación Superior (AIESAD), la Universidad Técnica Particular de Loja (UTPL), la Universidad Estatal a Distancia de Costa Rica (UNED), la Universidad Nacional Autónoma de México (UNAM), Universidad Autónoma de Nuevo León (UANL); y, la Universidad Nacional Abierta y a Distancia (UNAD), proponen establecer espacios de diálogo que permitan analizar el estado de la educación no presencial en la región con visión prospectiva ante los retos y desafíos que enfrentan las instituciones de educación superior en América Latina y el Caribe frente a la continua transformación digital, incorporación de la inteligencia artificial, innovación pedagógica, internacionalización, vinculación con la sociedad, como elementos clave para el aseguramiento de la calidad de los sistemas educativos.

Information Session on Academic Publishing

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The Editor of the International Review of Research in Open and Distributed Learning will respond to questions from authors and potential authors on how to get published in scholarly journals in fields related to educational technology and distance education. The session will consider topics such as the following: · How to structure a good paper; · Mistakes made by authors; · Why papers are rejected; · What are Impact Factors?; · What is a h-index, ESCI, SCOPUS, · What is DOAJ? · Explain Diamond, gold, green open access; · Inform about predatory journals; · the Edpub oligarchs. · What is SciHub.

Global South Open And Distance Learning Initiative

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The Global South Open and Distance Learning initiative (GLOSODLI) is being conceived to amongst other things; · Bring together expertise, information, knowledge, and the wherewithal necessary to boost further and uptake of open and distance learning; · Support the movement towards the achievements of the objectives of Sustainable Development Goals (SDGs). · Succinctly drive the Global programme of lifelong learning (LLL). · Efficiently harness and galvanise all training, research, exchange of learners, academics and experts in the development of open and distance learning in the Global South; · Address cross-cutting issues affecting teaching and

learning in order to assist the over 65% youth population and learners in the rural environment; and · Organise regular professional and academic meetings to bring together and harness and harmonise growth and development of ODL.

Disrupting STEM Distance Education: Remote Experimentation with LabsLand

Pablo Orduña · pablo@labsland.com · LabsLand · CEO

LabsLand is a global network of remote laboratories, providing remote access to real STEM equipment located across 14 countries. While some universities buy equipment or co-develop remote laboratories with LabsLand, most access the extensive collection of equipment within the global LabsLand network, even without owning any hardware themselves. In this talk, the CEO and co-founder of LabsLand, Pablo Orduña, will illustrate how the platform is routinely used by both distance-learning and in-person universities. The talk will spotlight laboratories in fields such as Engineering, Physics, and Chemistry. It will present case studies from distance learning institutions, some supporting over 1,000 students per group, like the Universidad Estatal a Distancia of Costa Rica, UNIR (Spain and Mexico), and UNED (Spain). Moreover, examples from traditional universities, such as the University of Washington and University of Michigan, as well as corporations like Intel, will be shared. These instances will demonstrate how LabsLand's remote labs are enhancing learning experiences worldwide. Additionally, the talk will feature live demos of select remote laboratories, showcasing the immediate benefits of the LabsLand experience. By focusing on these points, the talk aims to underscore how LabsLand is revolutionizing practical learning in the digital age.

ICDE 85th Anniversary: Special session with invited speakers at the World Conference

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On the occasion of ICDE's 85th anniversary, we have invited two senior members and field experts to reflect upon the historical impact of open and distance education from a global development perspective. What is the unique DNA of open and distance Education, and how can it be recognized today, in the myriad of technology supported learning in a rapidly changing educational landscape? And why is ICDE, an 85 year old global association with roots in correspondence education, still relevant today?

Los futuros de la educación superior. Una visión desde ECESELI

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Cuál es el futuro de la educación y la promesa de las tecnologías digitales, que nos lleva a reimaginar la educación que debemos seguir haciendo de forma creativa, pero especialmente encaminarnos hacia la realidad deseada, los principios de la cooperación, la colaboración y la solidaridad son la propuesta del ECESELI para compartir y desarrollar ideas, promover actividades académicas conjuntas y en general fortalecer e impulsar el desarrollo de la educación superior. Consideramos que el principal punto de atención en la educación con el uso cada vez más generalizado de las TIC no es el aspecto tecnológico sino el pedagógico, así como las políticas educativas para operar y producir nuevas prácticas de enseñanza y de aprendizaje, en este sentido, se reflexiona sobre la importancia de generar una nueva pedagogía con el uso apropiado de las tecnologías que están disponibles. Con una visión de futuro de la organización de las universidades, se están analizando las mega tendencias sobre la base de la Transformación digital y Educación Superior para apoyar la toma de decisiones en la construcción de escenarios de gran impacto.

Preparing for the future of teacher education programs in an emerging economy: The case of a distance education unit

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Preparing for the future of teacher education programs in an emerging economy: The case of a distance education unit Education is at the center of the 2030 framework for Sustainable Development, which makes teacher education a priority aspect to focus on. In most emerging economies, there is evidence in literature that teacher education has not yet come into its own with regard to digitization. At the ICDE 2017 conference, the staff at a unit for distance education in an emerging economy presented a paper on how a paper-based distance education model was in the process of being migrated into a web-dependent blended model. The model was responsive to the changing environment of technology prior to the COVID-19 pandemic. Borrowing from relevant literature, institutional documents, and conceptual/theoretical frameworks, in the current study, the authors report on how the unit is advancing into the future of distance teacher education. The focus is on how the unit is adapting its instructional systems to suit the uneven landscape of technology in its context. It also reports on the successes (for instance, improved student support and performance), and the challenges (examples of which are the lack of social and teaching presences in some modules). Lastly, it makes recommendations for future research and practice for distance education providers in a similar context.

Getting Published in High Impact ODL Journals

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The fate of a submission is often sealed long before it is submitted for publication consideration to a journal, because this depends so much on its building blocks. If the design of a research is flawed, the data will not be able to support its findings or hypotheses, just as bricks and mortar will not be able to hold a structure, if the design of a construction is weak. Insisting on methodological rigor in the design and the conduct of the research is therefore key. Open, flexible and distance education sits foundations from an eclectic knowledge base. While this provides scope for multiple perspectives, it also poses serious challenges for writing, researching, and getting published in the field. Key issues among these are: 1) a lack of awareness of the basic principles of open and distance learning; 2) lack of awareness of lessons already learned; and 3) lack of methodological rigor. This workshop will engage participants with a critical examination of these issues and challenges and how best to approach them.

Merging Mass Kidnapping and the Devastating Impact of Crimes on Girl-Child Education Rights and Future in Northern Nigeria

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The unprecedented manner of this nefarious crime has a significant impact on other associated crimes in Nigeria. This has heightened the fear of girl-child school drop outs, challenge of insecurity for the girl-child, payment of ransom to kidnappers, a life of living in violence and coercive sexual relations under duress marriage. These girls were coerced into becoming sexual properties with the males' commanders in the group of the kidnappers, this sexual servitude relationship results into unwanted pregnancies, abductors face acute trauma and stigma if return, parents become traumatized due to the abducted schoolgirls. The overall implication worsened as the governance failed to defend and protect the fundamental rights of the girl-child in Nigeria.

Win-Win Badge (WWB) Systems as Catalysts for Individual, Collective and Regenerative Impacts

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Digital badges and micro-credentials are connecting individuals with opportunities for skill development and advancement across a variety of sectors. Badging competencies and achievements combines gamification and customization to support personalized educational goals. Institutions and businesses (profit and non-profit) are also using badges to attract new

customers and connect with key audiences enhancing administrative efficiency, incentivization and assessment. While such innovations are exciting, badging alone is not necessarily better or fundamentally different from traditional alternatives. It is possible, however, to explicitly design badge systems that support individual growth while also building collective and regenerative impacts. By shifting emphasis from personal achievement to pro-social contribution and by connecting participants with opportunities to engage and develop skills and competencies, we can create value for individuals, communities, ecosystems and our planet. Furthermore, digital badges can be stacked or combined to build higher-level skills and opportunities, can support dynamic assessment, and can be used to track progress and optimize engagement toward targets and priorities. This session will challenge participants to elevate expectations for micro-credential and digital badge systems, providing concrete examples of Win-Win Badge (WWB) models and associated benefits while considering implications for sustainability and global development. Panelists will include Dr. Mara Huber, designer of the ELN Project Portal, an award-winning WWB system that utilizes mentored projects and digital badges; Eric Schneider, founding director of Youth-Leader, a dynamic world-wide ecosystem for supporting, connecting and boosting youth change agents; and Daveed Benjamin, technology futurist and architect of the Metaweb.

Fostering “Peace” between the Tension of Flexibility and Feasibility: An Exploration of HyFlex Teaching

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In March 2020, the pandemic forced faculty and students into new and unconventional teaching and learning models. While everyone is happy to have moved past “pandemic teaching,” many students would like to continue having flexible learning options. In response, faculty were invited to participate in a two-year interdisciplinary Learning Community (FLC) about HyFlexCourse instruction. Seven faculty participated in an implementation of a HyFlex teaching model that allowed students to choose the learning modes (in-person, synchronous online, and asynchronous online) that fit their availability, ability to get to campus and learning preferences. This interactive and moderated panel presentation will feature faculty members midway through the interdisciplinary exploration of HyFlex. Each FLC member participated in professional development on HyFlex and implemented HyFlex in at least one course. Panelists will share the challenges faced implementing multiple teaching modes simultaneously, lessons

learned about student expectations and preferences, ideas for fostering “peace” between the tension of flexibility and feasibility--and where HyFlex fell short. In addition, panelists will invite participants to share their perspectives. Using interactive technology, the panel moderator will also seek input from attendees on their own HyFlex experiences, concerns, and plans.

Collaboration in Open and Distance Learning (ODL): A Panacea for a Sustainable Future and Harmony

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Education consists of knowing, teaching, and learning to know the truth. Good education makes learners both producers of knowledge and discerning consumers of societal benefit. Education is therefore essential to achieving self-discovery, searching for the truth, and engendering an egalitarian society. This in the past has essentially been achieved through a traditional system of delivery because the effectiveness of ODL was insufficiently explored.

To avoid a world of cracks and fault-lines which are not sustainable, contemporary education should aim to bring the world together through international collaboration, well strategized through ODL. Current global challenges expect us to draw on our strength from a diverse range of experience and expertise that should not be limited by territorial borders, a great asset of ODL education. The future of education should be based on multilateralism encompassing global partnership and solidarity, eliminating divisiveness. ODL allows for true international movement of students and faculty with minimal economic involvement and enormous societal transformation. Extensive investment in ODL thus appears a panacea for sustainability and global harmony. Operators of ODL mode of education must uphold the pivotal role of collaboration to provide an intellectually stimulating learning and caring environment where learners demonstrate long-lasting transformation and global harmony.

How to write an Open Education & Open Science Policy for Higher Education

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Transversal, integrated Open Education and Open Science (OE & OS) is the key for success in Higher Education. Lonely efforts to create and use OE & OS are welcome. However, to secure sustainability and scalability, those efforts must be integrated in a backbone policy in every university. Only through an Open Education Policy, thoroughly described, and structured in a sensible way, OE & OS are likely to prevail and succeed. Every single department, faculty, lab, or any other production or service unit, must take part in the design, writing, implementation, and assessment of such policy, so that everyone is responsible, a key character, and accountable. This workshop will guide the participants, in a hands-on session, to design, structure, and (hopefully) write the fundamentals of an Open Policy for their Higher Education Institutions. We will analyse the sections, the stakeholders, the target audience, the resources, the detailed planning, the dissemination actions, the risk assessment, and the KPIs. We will also present a number of

examples already implemented. And, finally, specifics about hot topics, such as licensing, alternative credentials, competence frameworks adapted to OE & OS, Artificial Intelligence, ethics, plagiarism, and others. Altogether to ensure a productive, practical session for every participant. Every participant must be registered in advanced, join with a laptop to access links and write online during the session, and come with some knowledge of their university on the matter. The workshop, and the policies, will be developed in English and-or Spanish, in parallel. Any participant mastering any of these two languages is welcome.

Regional Perspectives on Quality Assurance: Good Practices in the Age of Digital Education

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Open, flexible, and distance learning has grown exponentially over the past decades, positioning itself as a viable and affordable solution for expanding the access to education beyond time and place. With the increased demand, k-12 and higher education institutions are heightening their efforts on assuring the quality of their online offerings, a fairly challenging task in light of the diversity of offerings and learning models and scarcity of quality assurance standards and guidelines. ICDE Quality Network is proposing this panel as part of their efforts to drive excellence in open, flexible, and distance learning by expediting the creation, exploitation, and adoption of best practices to offer exceptional personalized experiences to learners and add distinguished value to internal and external stakeholders. The panel is designed to inspire and encourage the adoption of highest quality standards, it will bring together experts from four regions across the world to share their best practices in the area of quality assurance, offering a wealth of knowledge and insights, and engage in a lively discourse. The panel will incorporate an open discussion fostering a rich and informative platform for the participants to share, reflect, and learn from each other.

Exploring the Power of Open Badges in Credentialing and Social Development from a global perspective

Stella Porto · stellap@iadb.org · IADB (Inter-American Development Bank) · Sr. Learning Specialist

Esther Grieder · e.grieder@humanitarian.academy · Humanitarian Leadership Academy Global Communities & Partnerships Lead

Dominic Orr · dominic.orr@giz.de · GIZ

How can learning impact society, and how can digital solutions reinforce this impact? This thought-provoking panel discussion focuses on the transformative potential of open badges in the field of credentialing and its profound impact on social development. Dr. Stella Porto (Interamerican Development Bank), Esther Grieder (HPass, global platform for humanitarian skills recognition by Humanitarian Leadership Academy), and Dr. Dominic Orr (global learning platform atingi, German development cooperation, GIZ) will showcase practical insights into the successful implementation of open badges, highlighting lessons learned in empowering individuals and contributing to capacity building in areas of global sustainable development. By enabling a more inclusive and accessible approach to credentialing, open badges have the potential to bridge educational and economic gaps, promote lifelong learning, and facilitate the recognition of non-traditional skills. This panel discussion will contribute significantly to the conference objectives regarding global inclusion and social equality and networking and collaboration in new educational ecosystems. By addressing challenges, sharing best practices, and exploring innovative approaches in the use of open badges for credentialing, attendees will gain valuable insights and practical strategies to harness the full potential of open badges in their own organizations and initiatives.

Empowering Learners through Open Recognition with Open Badges and Microcredentials

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We propose an engaging workshop focused on empowering learners through the adoption of open badges and microcredentials, leading to open recognition. This workshop aims to provide participants with a comprehensive understanding of the concepts, best practices, and real-world case studies related to these components. By exploring the interconnections between open recognition, microcredentials, and open badges, participants will gain insights into how these approaches can bridge educational and economic gaps, foster lifelong learning, and empower individuals. Workshop Objectives: 1. Understand the concepts of open recognition, microcredentials, and open badges and explore their interconnections. 2. Discuss best practices for designing high-quality microcredentials and open badges that align with open recognition principles. 3. Share inspiring case studies of organizations that have successfully implemented microcredentials and open badges to foster open recognition. 4. Engage in collaborative discussions to explore innovative approaches and emerging trends in leveraging open badges

and microcredentials for lifelong learning. Through collaborative discussions and practical exercises, participants will gain practical insights into designing high-quality credentials that align with open recognition principles. They will also explore successful implementations through real-world case studies, encouraging the exchange of ideas and the exploration of innovative approaches to leverage open badges and microcredentials for lifelong learning.

Diversifying digital inclusion

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This contribution aims to address an issue that remains relevant for all educational institutions, even more so after the pandemic: digital inclusion. From the UNED Fabrication Laboratory, several projects have been developed with the aim of diversifying the options to make this digital inclusion a reality, especially for populations in vulnerable situations. The aim is to present these options which, of course, have evolved over time and have been responding to the technological innovations that arise and the opportunities they provide to achieve greater equity in this inclusion.

Curation support for K-12/primary/secondary OER and the SDGs

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This action lab will present the website openteacherab.ca as a means for K-12 (primary/secondary) teachers to learn more about OER and copyright literacy. Although there are many examples of teachers sharing resources, the awareness, understanding, and support for ethical sharing requires further attention. To address this need a Canadian (i.e., province of Alberta) grassroots OER K-12 working group developed this website to support pre-service and in-service K-12 teachers and administrators. During the Action Lab small groups will focus on OER related to a specific Sustainable Development Goal to locate, curate, and apply Wiley's 5s(Wiley, 2014) and apply ISKME's OER Harvesting Criteria, EQuIP Criteria, and Evaluating Bias rubrics (ISKME's School Librarian OER Curation Framework, 2019) as well as assessing for Indigenous perspectives and knowledge-sharing protocols when applicable. Insights gained from these activities will be shared at the end of the lab and used to refine the website and future workshops based on its implementation. Although the website directly supports primary/secondary teachers the processes of curation and assessing OER apply to all sectors of education. Participants will require their laptops to fully engage with the action lab.

Exploring Ground-breaking AI Powered E-Learning Tools Developed by Contact North | Contact Nord: A Hands-On and Interactive Workshop

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In this interactive, hands-on workshop, led by Dr. Ron Owston, Contact North | Contact Nord Research Associate, AI in Higher Education, participants will have the opportunity to explore cutting-edge AI tools developed by Contact North | Contact Nord. Dr. Owston will guide attendees through the practical applications of AI in learning and teaching. This immersive session will provide participants with exclusive access to Contact North's ground-breaking suite of AI tools, KnowledgeBuilderAI, showcasing how they can be integrated into various learning environments. Attendees will have the chance to test-drive these new technologies, gaining first-hand experience with personalized learning environments designed to enhance student engagement and performance with AI. Throughout the workshop, Dr. Owston will be available to answer detailed questions, discuss implementation strategies, and address any concerns related to AI in education. Participants will also have the opportunity to collaborate with other educators, sharing their experiences and fostering a supportive community of AI e-learning enthusiasts. Participants will be expected to bring their own devices to the workshop.

Distance Educational Research and Development Laboratory (LIDE+aD). A proposal to articulate new educational ecosystems at the Universidad Estatal a Distancia de Costa Rica (UNED) and the world

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Distance Educational Research and Development Laboratory (LIDE+aD). A proposal to articulate new educational ecosystems at the Universidad Estatal a Distancia de Costa Rica (UNED) and the world. A LIDE+aD laboratory would allow directing efforts and resources to build novel contributions to Costa Rican society through "technological goods and services to provide continuity to the educational service" (State of the Nation Program, 2021, pp. 40-41), from the modality of Distance Education. With the LIDE+aD, the PROIFED-UNED initiative would offer a space for articulating research ecosystems to give multiple pragmatic and applied responses to different problems.

Small is the new big! How European HEIs are shaping the future of education by micro-credentials?

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During this interactive workshop will be presented the results of an EU-funded, running, project MCE- Modularisation of Continuing Education and Professionalisation by Micro-credentials. Specifically, we have gathered data related to the learners' needs in relation to modular education; collected the best practices in the partnership and we are ready to start experimenting with pilots with all the possible shapes and formats that micro-credentials can have and need to have. The purpose of the workshop is to discuss how to operationalize the EU Council recommendations in relation to lifelong learning and employability and help EU universities develop an evidence-based strategy. The best audience for this WS is anybody with a positive and constructive attitude, it is a plus if it belongs also under one of the following categories: working in the CPD office of HEI; policymakers; representative of the labour market and VET; students in lifelong learning experienced with micro-credentials.

Digital Transformation in Higher Education: How Does it Affect the Teaching and Learning activities? An analysis from different world regions

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This hybrid session will be part of the European Open and Digital Learning Week organised by EDEN Digital Learning Europe. The session will analyse the main changes in the teaching and learning processes in higher education in different regions of the world after the pandemic period. The session will provide a vision of the future and will emphasise the analysis of the leading digital transformations that higher education is undergoing. It will consider the perspective of educational leadership, teaching models, teachers' and students' competencies, among other aspects.

National Open University of Nigeria Postgraduate Students Perception of their Employability Skills

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This paper consists of a study of National Open University of Nigeria postgraduate students perceived employability skills needed for sustainable development. NOUN is the only single mode open and distance learning institution in Nigeria. Naturally, the face to face mode of

instructional delivery is preferred to the open and distance learning mode of instructional delivery. Hence, this paper focused on the assessment of NOUN postgraduate students perception of their employability skills to determine if they possessed the needed skills required for employability in the world of work for sustainable development. The result of the study was very encouraging as the participants possessed the needed employability skills. Hence, countries who are yet to deploy ODL instructional delivery mode are encouraged to do so to enhance the employability level of their workforce. Since ODL mode is a viable option for mass education.

UAbierta: Promoting Educational and Digital Inclusion for Social Mobility

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UAbierta is an integrated system for the open education service of the Universidad Estatal a Distancia de Costa Rica, UNED (UNED). UAbierta was implemented as a measure to face the consequences of the COVID-19 pandemic and to diversify the educational model that identifies UNED. At the same time, UAbierta was anticipated to be offered permanently. This open university system is based on the principle of social inclusion and lifelong learning, mediated by information and communication technologies. The training process includes different areas of the job environment along with the development of productive and social skills that foster cultural identity and regional ties. This process is possible through networks or inclusive educational communities that favor populations at social risk. The participants self-regulate their enrollment process, training, and certification of their knowledge. They carry out this process according to their particular interests and needs with the potential of moving along the different academic levels offered and recognized for labor inclusion.

As the pandemic dust settles, are we ready for what's next? A global discussion of our changing educational landscape

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As the pandemic dust settles, we find ourselves in a very different world than when we last met in 2019, with substantial changes to how tertiary and post-secondary education are delivered. Moderated by Dr. Nicole Johnson, Executive Director of the Canadian Digital Learning Research Association, this panel discussion features experts from several countries who will share their insights, observations, and speculations about digital transformations and the future of post-secondary education specific to their region. Panellists will discuss the following questions, followed by questions posed by the audience: How do you expect post-secondary education in your country to be substantially different in five years? How should post-secondary education institutions prepare for the coming changes? How optimistic or pessimistic are you about the future of post-secondary education? What does this mean for students? What advice would you give to educational leaders about planning for the future?

The Knowledge Equity Network: Radical Collaboration in Higher Education

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Higher Education can play a significant role in addressing the world's most pressing challenges. However, this necessitates a concerted effort from universities at executive level, research and education professionals, international organisations, publishers, and Higher Education funders across the world. The recently launched Declaration on Knowledge Equity sets principles and objectives for signatories in the areas of Open Education, Open Research, and EDI (Equality, Diversity and Inclusion), addressing the critical need for radical collaboration in order to make an actual difference in our planet. This panel presentation aims to outline, through interaction with the audience, the requirements for radical collaboration to succeed within the Knowledge Equity Network, whose mission is to support the endeavors of the signatories of the Knowledge Equity Declaration in achieving its goals. Questions such as the role of knowledge sharing activities in fostering informed and articulated conversations, the necessity to build trust between the wide range of diverse institutional and individual partners within the Network, and the scalability and the scope of emerging projects will be touched upon.

Fraude académico y aprendizaje: percepción de la comunidad estudiantil.

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This research analyzed the students' perception of academic fraud and its implications on learning in the context of distance higher education, in the case of the UNED in Costa Rica. The study was based on research conducted with the student population enrolled during the first quarter of 2022 in the Chairs of Preschool Education, Preschool Childhood Development, Language Stimulation and Curricular Management of the School of Educational Sciences. It is proposed from a quantitative approach, which allowed the analysis of statistical data, with a descriptive scope. The technique used was the survey. The study revealed the students' perception of academic fraud, learning and the implications of academic fraud in learning. It also highlights lines of action to mitigate this phenomenon from the learning scenarios.

Connecting students with locally-led sustainability and development partners for virtual projects and digital badges

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Since launching the ELN Project Portal at the University at Buffalo in 2019, we have been connecting students with locally-led sustainability and development partners for virtual projects and digital badges. Through a recent Instructional Innovation Technology Grant, we are scaling our Project Challenges across SUNY and adding additional functionalities including GIS mapping, COIL (Collaborative Online International Learning) and StoryMaps. These efforts build on our dynamic engagement framework, PEARL, that helps students Prepare, Engage and Add value, Reflect and Leverage their experiences toward broader impacts. PEARL provides the backend of our digital badges which allow students to showcase their achievement while supporting robust assessment and tracking of impact. With current partners in West and East Africa, Europe, Mexico, and Costa Rica we are poised to further expand our model, engaging new Higher Education and community-based partners interested in leveraging Project-Based Learning as a catalyst for student impacts and sustainable development. This participatory workshop will introduce the ELN model and sample project challenges, and will invite participants to create a StoryMap using an example or a project of their own. Presenters will offer opportunities for further discussion and exploration during the Conference and interested participants should reach out to initiate dialogue.

Accessibility of textbooks with mathematical content

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UNED's mission is to offer higher education to all sectors of the population, but especially to those who, for various reasons, including disability, require opportunities for a real and equitable insertion into society. In addition, in 2019 the Institutional Policy for the Implementation of the Universal Design for Learning (UDL) was approved, which commits us with greater intensity to the different instances to promote the conditions that will guarantee the access and permanence of people members of all the sectors of the population in educational programs. Therefore, it is essential to ensure the accessibility of the didactic materials used in the subjects for all students, particularly for blind and low vision students, since the enrollment of this population is increasing. Until now, textbooks with mathematical content produced at PROMADE have not been fully accessible to blind people who use screen readers to access the information. For this reason, it is essential to share the progress, find a collaborative solution, and systematize the findings.

Don't be Afraid of the Tool, use it to Enhance Your Teaching Prowess

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Professors and instructors can be intimidated by the latest technologies. There are learning curves and they seem complicated. Oftentimes our students are using these tools well before we even consider integrating them into our teaching practice. To fully engage our students in the learning process we need to take a chance, not be afraid to make mistakes, and fail-up by trying these tools. Some are social media related, some are AI based, and others are just being comfortable using video or online conferencing. Underpinning this all is the basics of pedagogy and curricular design that we are all used to, there is nothing new here. The delivery model has changed but whatever you do in the classroom you can do online using a digital tool. Take the fear and uncertainty away by attending this workshop. Come join your colleagues for a fun filled hour of hands-on learning using digital creation tools for media creation (audio/video), assessment, class discussion, and AI-assisted research. During the session you will learn the best practices for asynchronous, synchronous, and hybrid learning and how to choose the right digital tool. You'll learn some of the easiest and most cost-effective (mostly free) tools available to create green screen effect videos, high quality presentations, and interactive assessments. You walk away with at least one of your course lessons redesigned using a new digital tool.

What's love got to do with it? Supporting culturally safe online spaces

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Come respond to a call to action from a doctoral student in distance education for the global creation of culturally safe, respectful, and inclusive online educational spaces. Starting with hooks (1984) concept of centering the margins and part of an attempt to respond to the Truth and Reconciliation Commission's (2015) calls to action 24 and 45.1 in a meaningful way, I invite co-conspirators to join me to discuss: How can/do we as educators and learners in open, flexible, and distributed learning make space for the creation of culturally safe and inclusive online learning? Discussion starters: · What is cultural safety? · What does it mean to be culturally humble? · How does love inform your teaching practice? · How can/do we set the stage for creating online learning spaces that support an inclusive relational ethos? · How can/do we welcome different ways of being, knowing, doing, and choosing when asking students to demonstrate their knowledge and understanding in online spaces? · What challenges have you faced in trying to create inclusive, culturally safe online space, and what strategies have you found to be successful? · In many colonial contexts, there has been a practice of including a land acknowledgement in our courses and presentations. Is that OK?

Rethinking assessment and academic integrity in the light of COVID19 and AI

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Assessment has been an area of creativity, change and contention for many years, and this was particularly the case during the pandemic. Now we face further opportunities and challenges arising from AI and emerging technologies. This workshop proposes to engage participants in an interactive discussion focussed on exploring potential solutions to the challenges posed by AI and online assessment. We link this to the theme of best practices in the Futures of Quality Open, Flexible and Distance Learning Models and Technologies. The University of London has for four years conducted an evaluation of online assessment in its international programmes, in the light of the classic model of face-to-face examinations in examination centres being closed down by the COVID pandemic from 2020-2022. With over 90,000 examination taking place each May and June, the focus has in particular been on the student experience, which has been broadly positive and supportive of the maintenance of the move to online assessment, with very little concern about student performance being negatively affected. Interviews with academic programme directors have revealed a varied picture of reform of assessment design, to include more continuous assessment and reexamination of assessment modes. At the same time there is evidence that academic offences and pass rates have increased, leading to concern at institutional level about academic integrity and the protection of institutional reputation. These experiences have been mirrored across the sector (Almossa 2021; Amrane-

Cooper et al 2021; (Gamage et al 2020). Now, this set of issues have been further impacted by the arrival of AI programmes such as ChatGPT, which raise concerns about how assessment should be redesigned variously to exclude or to incorporate its affordances. There is overall a set of questions raised by the possibilities of online assessment and AI on the assessment practices of the sector, to which there are no easy answers and which deserve wide and urgent discussion in the international field of online and flexible learning. These questions make up the core of discussion which are proposed for our session. In summary they are: 1. do the threats of academic misconduct with online assessment and the advent of ChatGPT and similar AI technologies drive a return as soon as possible to the classic invigilated exam centre mode? 2. does online assessment and AI rather demand a reform and redesign of assessment in fruitful ways that support learning and the integration rather than the exclusion of digital technologies and what might reform look like?

Achievements, opportunities, and challenges of virtual platforms for the training of human resources for health in the region of the Americas.

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Carlos León · PAHO · Virtual Campus · Panamá

Currently, and especially after the changes promoted by the COVID-19 pandemic, virtual training platforms constitute a central strategy for the training and permanent updating of health workers in service. In the region there are various platforms belonging to scientific societies, universities, governments, non-governmental organizations and international organizations with diverse interests and proposals. Objective: discuss the potential of platforms in the region to develop powerful educational projects for the training of the health workforce and for the transformation of health services. Methodology: Three experts from the region will participate in the panel. The articulation of training with health work problems and the potential of educational proposals within the framework of lifelong education will be considered, as well as the value and recognition of their credentials in the work context and the context of university studies.

La evaluación virtual en secundaria

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Virtual secondary education is a new experience in Costa Rica generated by the National Distance Education College (CONED), under the supervision and support of the Curricular Support and Learning Assessment Program (PACE) of the Distance State University (UNED).), so the Ministry of Public Education (MEP) does not have guidelines established in the Regulations for the Evaluation of Learning (Ministry of Public Education, 2023). The objective of the workshop is to demonstrate the evaluation processes of virtual education in secondary schools, for which the virtual courses designed by CONED will be taken in the areas of Spanish, Civic Education and Biology. The purpose of the workshop is to provide learning on the generation of virtual secondary evaluation, in such a way that the criteria of validity, reliability and legitimacy of the individual's identity are safeguarded. Understanding that the teacher is a facilitator of the learning process and for this they need to have specific skills that allow them to develop pedagogical mediation processes, including evaluation processes (Moreno Olivos, 2015). The methodology that will be used in the workshop will be the following: first, a 15-minute explanation of the CONED virtual model, then the participants will be given access to the "Virtual Classroom" environment in which the virtual courses are located, there the tutor environment will be taken to do a practice on the construction of items and development of rubrics designed for secondary education, which will have an approximate space of 20 minutes, thirdly they will be asked to develop a collaborative item for this type of courses, for this they will have 15 minutes and finally they will present the results, in five minutes. The workshop is planned to be executed with a group of 5 to 20 people in an average of 80 minutes. Objective: Evidence the evaluation processes of virtual education in secondary Methodology: The Spanish, Civics and Biology courses will be taken as examples to demonstrate the evaluative processes of virtual secondary education, in addition, elements will be proposed to encourage the validity and reliability of the evaluation.

La investigación en Educación Digital en Latinoamérica: estado actual y retos de futuro

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Paulina Zamorano · Universidad de Viña del Mar · Chile

Este panel tienen como objetivo analizar la situación actual de la investigación sobre Educación Digital en Latinoamérica, con un énfasis particular en determinar cuáles son las necesidades a

las que se enfrentan las distintas universidades y los distintos países para formar más y mejor a sus investigadores e investigadoras. Los ponentes son personas investigadoras con notable experiencia en la investigación educación a distancia, tecnología educativa y educación online, las líneas que fundamentalmente alimentan la actual tendencia de Educación Digital. Las conclusiones del Panel pueden aportar ideas y propuestas sobre los enfoques de las políticas y de las estrategias de formación de los jóvenes investigadores y su desarrollo profesional en un contexto internacional. · ¿Qué es educación digital? ¿Existe actualmente una agenda sobre la investigación en educación digital? ¿Cuál son sus prioridades? · ¿Cuál es el papel de los investigadores latinoamericanos en esa agenda? ¿Cómo se podrían mejorar estas métricas? · ¿Qué necesidades de formación, recursos, comunicación, coordinación, iniciativas... deberían atacarse para mejorar su posición? · ¿Qué experiencias en Europa podrían ser útiles para tomarlas como referencia?

Open, flexible, and distance education in a nordic context

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This panel discussion will focus on a Nordic regional network, NordFlexOn, for open, flexible, and distance learning (OFDL) established by ICDE in 2019. The goals of the network are to identify potential and current challenges to OFDL implementation and development in the Nordic region, advocate for high quality OFDL, and facilitate cross-national collaboration and dissemination of practise- and research-based knowledge on OFDL in the region. Four of the participating countries have had national OFDL associations for years, while one country (Iceland) is planning to establish one. In our presentation, we will report on the results of a comparative study between the four Nordic associations based on interviews with representatives and analysis of information from the associations' websites on membership, finances, goals, online presence and events, projects, outreach activities, and challenges and successes. In the panel discussion, we will discuss how the information can be useful to NordFlexOn participants and other regional networks or national associations in implementing and developing OFDL and networking in a new educational ecosystem on OFDL. The discussion will also focus on the ICDE Global Advocacy Campaign (GAC) for Open, Flexible, and Distance Learning and how NordFlexOn plans to collaborate with ICDE GAC in the Nordic context.

The role of Artificial Intelligence (AI) related to Open Educational Resources (OER)

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What is the role of artificial intelligence in the context of OER, not least generative AI, such as Chat GPT, AI-driven tools and approaches? There is no doubt that generative tools based on natural language processing and neural network algorithms have great potential to save time and effort for creators of OER. This workshop will explore the characteristics, benefits, key challenges, and practical issues related to the use of technology from a variety of perspectives, including professional, ethical, sustainability, and equity. The workshop will be dynamic so as to be more productive and engage participants. The workshop will be facilitated by the ICDE OER Advocacy Committee (OERAC). Participants will actively engage in a collaborative dialogue and begin creating a “Wall of Wonder” (in Padlet or Miro) which can be taken away to be further explored and expanded in their own communities, as a piece of OER in itself. Workshop participants will derive great benefit from not only being part of an ongoing and very timely discussion about OER and AI, but also from creating a unique, dynamic piece of OER that can be shared and disseminated. Finally, short summaries and notes for further work will be produced after the workshop.

Experiences with quality reviews on behalf of ICDE

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ICDE offers quality audits with international experts, as quality is at the heart of ICDE. The University of Terbuka (UT) in Indonesia has conducted a quality review with ICDE five times, in 2005, 2010, 2016, 2019, and most recently in July 2023, as quality is embedded in the vision, mission, and all activities by UT. The working culture of UT has its values in Quality, Integrity, Innovation, Accessibility, Relevance, and Accountability. Since its founding in 1984, UT has risen to the challenge of providing education to students in remote areas. Over the years, however, it has also met the challenge of transformation, continuously evolving to meet the demands of the future and making the educational institution the best version of itself for the people of Indonesia. This panel discussion aims to disseminate the joint work and processes of UT and ICDE and how important these valuable ICDE reviews are for UT and their country to improve the quality at the highest level in the international arena of open, flexible and distance education. This event is also intended to stimulate and encourage other universities around the globe to conduct quality reviews accompanied by self-evaluations, benchmarking, and roadmaps for the university.

Collaborative Futures: Insights and Innovations from ICDE Global Advocacy Campaigns

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This panel discussion convenes task force leaders from the ICDE Global Advocacy Campaign across North America, Europe, Latin America, and Oceania. The session illuminates their work in catalyzing regional and global change across five critical areas: collaboration and quality, valuing student voices, technology's role, policy guidance, and open education. Participants will engage with the campaigns' experiences, identify OFDL challenges and needs, and co-create strategies for enhancing education access. The session introduces tools for designing advocacy campaigns and inspires concerted action in advancing impactful OFDL models. Furthermore, it empowers Global Doctoral Consortium participants in planning OFDL's future. In alignment with the conference theme, this session invites delegates to contribute to global inclusion and social equity, leaving them with actionable insights for engaging with advisory campaigns and

advancing OFDL in their regions. Be part of this dynamic dialogue, as we collectively navigate the future of open, flexible, and distance learning.

How to define which courses or programs to offer in digital modalities (blended, online, among others)? Create a framework for your university

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Nowadays, educational institutions have integrated more and more courses and programs in digital modalities (online and blended), not only because of their current needs but also because it is one of the trends that will support the future of educational models; And this applies not precisely to institutions focused on distance models, but also to those that are normally face-to-face. However, there is no guide that allows institutions to define which courses or programs are most appropriate to be taught in digital modalities. Questions arise such as when to offer a course/program in digital modality? What content is most appropriate to be taught in digital modalities? What conditions are necessary to take care to maintain this educational offer? These are some of the questions to be answered in this workshop where it is intended to provide a guide for the participants to build their own framework to define which courses and programs in digital modalities should be part of the educational offer that contribute to the vision of their institution.

How to design courses in digital modalities with high-quality standards. Define your institution strategies and quality criteria.}

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Post-Covid, in 2023, universities worldwide have seen students' preferences change around the mode of learning. While online learning is not new, the post-pandemic period has brought an increase in hybrid and online learning modalities in Higher Education Institutions. This expansion has required adjusting the traditional processes of the institutions to incorporate new teaching modalities and consequently included quality assurance processes and criteria in the design and delivery of courses in digital modalities. This workshop has the purpose of offering the participants recommendations on the fundamental elements to ensure the quality of the courses and guide the participants in the construction of their processes and criteria to maintain a high quality of online and hybrid educational offer.

Increasing global access to HE: AVENU's Online Transnational Degree Model

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While quality education may now be globally available it is not always accessible; barriers of location, price, language and cultural relevance remain challenges requiring creative solutions to truly impact education attainment. AVENU is creating global access to quality higher education by delivering a new model of learning in collaboration with its global University partners - the online transnational degree. In this new model, University degrees are delivered in the language of the learner and with a globalized curriculum, making it relevant for learners in growth markets. Taught by faculty who both meet the University standards for qualification and speak the language of the learner, these degrees are also offered at tuition prices at market-sensitive rates. AVENU's strategic global partnerships enable the delivery of the online transnational degree - offering a unique opportunity to truly meet learners across Latin America and India where they are. Led by AVENU's Chief Academic Officer Dr. Luis Galarza, this workshop will focus on examples of how translation, curriculum relevance and unique faculty engagement in the online transnational degree model increase access to higher education for learners in growth markets.

ECOESAD colaboración para la transformación del aprendizaje

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En este panel el Espacio Común de Educación Superior a Distancia comparte seis proyectos colaborativos realizados del 2021 a la fecha, resaltando la colaboración interinstitucional, la importancia de las temáticas para los miembros de la red, el proceso para su desarrollo y los logros obtenidos hasta este momento. La Dra. Lucero Cavazos, presidenta de la Red, modera

el panel. Participan los coordinadores de cada uno de los proyectos, quienes, a través de la respuesta a las interrogantes de la Dra. Cavazos, relatarán la experiencia vivida, los desafíos enfrentados y los resultados obtenidos.

Diversifying opportunities. Experiences Costa Rica, Guatemala and Belize

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This panel seeks to present the realities of people who for various reasons do not have access to resources available through the Internet. These realities will be analyzed with specialists from 3 countries who will share their experiences in providing access to various vulnerable populations through the RACHEL device.

Implications of Open Education

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What does it mean for an institution of higher and distance education to be open? What does open education imply? How is open education managed? The idea is in this panel to discuss some of the implications arising from the above.

Transforming institutional spaces

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For several years now, the need to increase interdisciplinary, transdisciplinary and multidisciplinary work in educational spaces has become more and more evident. However, the openness to these changes is not so easily found or promoted, even though the educational processes would be greatly enriched and benefited.

The curricular construction of virtual courses in secondary

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The National Distance Education High School (CONED) was born in 2006 as a response to the need of Costa Rican adults who had not finished secondary education in an agreement between the Distance State University (UNED) and the Ministry of Public Education (MEP) in 2005 (Díaz-Porras et al, 2022). Over time it has been modified according to the needs of the student community and in 2016 it began with the proposal of virtual courses, in such a way that it adjusts to the secondary education curriculum of the country and to the specific needs of adults who do not they have finished high school. Pedagogical modifications around virtuality respond to the need of students to finish high school, but also to a process of social technological illiteracy, so the creation of this type of didactic resource must be very intuitive in response to the educational needs (Desueza-Delgado, A., Mesén-Meneses, P.A., Díaz-Porras, J.A. and Alfaro-Salas, H, 2023). This workshop seeks to demonstrate this type of process and propose pooling so that the participants can carry out execution exercises in the CONED Virtual Classroom, in the environment of tutors, for which a space will be opened that will allow them to explore the different tools that it has. and specific parts of the Costa Rican curriculum will be offered so that they can design a module. Goal: Evidence the construction processes of virtual courses designed for an adult population that works, has children, lives as a couple and studies, so that the participants can design an educational module in the Virtual Classroom environment. Methodology: It will be explained how the virtual courses are built from the area coordinations, the Social Studies course will be taken as an example, in addition it will be indicated how the audio resource, the visual resource, the audiovisual resource, the DUA, and the general structure are used. of the courses. For this first part, 20 minutes will be used. The second part consists of the design of a module for distance high school in the Virtual Classroom, groups of 2 to 4 people will be made, and each subgroup must execute a curricular module for high school, for this they will be given 30 minutes. Finally, each subgroup must make the presentation and justification of the designed module, for which they will have 5 minutes per subgroup. It is expected to have a participation of 15 to 25 people, so the workshop would last 80 minutes.

The prospective function of memory and formative processes in distance education

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We propose a workshop on the prospective function of memory and distance education. The goal of the workshop is to offer the participants a grounded vision of the prospective function of memory as a central resource for the improvement of university formative processes. This

proposal is the result of research on human memory carried out at the Universidad Estatal a Distancia, Costa Rica. It is aimed at Spanish speakers.

Digital Education Leadership: Leading Today for Tomorrow's World

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This workshop addresses the challenges and opportunities confronting educational leaders in the face of an increasingly complex and unscripted world. It will consider many of the global megatrends on the horizon and explore some of the implications for leaders and educational institutions as the drive for flexible learning continues to gather pace. The underlying assumption is that leadership and an investment in talent and leadership development throughout institutions and at regional and national levels has never been more important to steering a path through such turbulent and rapidly changing times. But this assumption raises the question what type of educational leadership is required to proactively envision, transform institutions, and implement future-focused teaching and learning strategies for tomorrow's world. The workshop will draw on key lessons from the leadership literature, with a strong focus on the importance of a holistic approach which place digital education in the wider ecosystem in which institutions operate. Critical insights will be shared by several educational leaders with firsthand knowledge and experience on this topic, with personal insight into the messy and complex nature of educational leadership. The discussion will culminate with key priorities and leader actions that collectively workshop participants believe institutions need to consider in their own contexts. The objective is to identify actions that contribute to the development of fit-for-purpose transformative leadership cultures which support the goal a high-performing digital education ecosystem. Who should attend the workshop? This workshop targets senior leaders, emerging leaders, and those with responsibility for open, distance and flexible learning at all institutional levels. Crucially, leadership is not only confined to people in senior roles. Therefore, the workshop is relevant to a wide range of educators around the globe with an interest in new digital education models and how their institutions can strategically respond to the challenges and opportunities to define their own learning futures.

Research in distance education as a substantive task of the Universidad Estatal a Distancia, Costa Rica

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Since the Distance State University (UNED, Universidad Estatal a Distancia) foundation, research on this educational model has been conceived as fundamental. In its history, different instances, have done fundamental research for developing distance education in Costa Rica. The UNED has the Distance Education Research Program (PROIFED, Programa de Investigación en Fundamentos de la Educación a Distancia), whose main goal is to research the fundamentals of distance education. For this purpose, research has been carried out on topics as diverse as the nature of language, memory, reading and writing, learning, educational and cultural mediation processes, the role of technology in the university, the evaluation of learning, and educational actors. In general, research addresses the subject of human cognition and its implications for university education. But the topic is broad; hence, there are furthermore instances that have within their lines of research this topic, and there are postgraduate programs that promote this type of research, such as the Master's degree in Distance Education and Online Learning, where various dissertations are being developed to enrich the principles and foundations of distance education that pose particular learning and teaching situations that we hope to approach in this panel.

Supervising graduate research into the 21st century

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What are the student and supervisor characteristics and approaches that are useful or necessary in supervising and undertaking innovative research using creative, multi-modal or alternative forms of dissertation (CAGS, 2018; CPED n.d.)? This panel discussion aims to solicit your experiences, while also sharing ours, from the points of view of supervisor and graduate students. We will be especially open to hearing your considerations and suggestions from your experiences and contexts. What needs to change? What progress has already been made? – where (at what level)? What examples do you bring to the discussion? What suggestions can we make about where and how to start to bring about the necessary changes?

Paper extended abstracts

Affordances of the Col Model and Freire's Pedagogy for Critical Thinking in EFL Teacher Training

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Introduction

The Community of Inquiry (Col) model, originally proposed in 2001 by Anderson, Archer, and Garrison, has evolved in the last 20 years as a framework for teaching and learning in distance education environments (Wilson & Berge, 2023). Throughout that period, it has been extensively studied in different contexts and with different purposes. In the particular case of language teacher training, exploring how the Col model can foster the teaching and learning of Critical Thinking (CT) skills in the 21st century stands out as a promising application of the Col in the post-COVID-19 era, in combination with other theoretical models.

This article outlines the results of research carried out in a distance teacher training context. This case study explored the teaching and learning of critical thinking skills within a preservice English as a Foreign Language (EFL) teacher training program at a Costa Rican public distance university. A novel framework which combines the interaction of the Community of Inquiry (Col) model with Freire's Critical Pedagogy (FCP), and collaborative leadership (CL) is used as an original Convergent Theoretical model.

Literature Review

Literature related to the three main areas of theory is reviewed here: the FCP, Col, and CL. In addition, the teaching and learning of critical thinking (CT) and teacher training in foreign language education and English as a Foreign Language (EFL) in specific are discussed.

Freire's Critical Pedagogy

In the first place, critical theory regarded as Freire's Critical Pedagogy was studied from its roots in Marxism (Allman, 2009) and the School of Frankfurt. From there, Freire's thought was analyzed since the publication his *Pedagogy of the Oppressed* (1968). For Freire, liberating pedagogy was a means through which inequality and injustice could be corrected using education as a tool for social change (Freire, 2000; 2005). Thus, Freire's Critical Pedagogy regarded education as an interaction between teacher and student where both could take the role of teachers and learners. Finally, FCP understands that the teacher should allow students to develop their own voice, pose their own problems focused on their immediate reality, and come up with solutions to those problems.

Community of Inquiry

On the other hand, the Community of Inquiry model (Col), was described from its inception in the original papers by Garrison, Anderson, and Archer (2000, 2001). The Col allows the learner to learn in a constructivist way, that is, as an individual ("private world") and as part of a community ("shared world") (Garrison et al., 2000). In this way, within the distance education classroom, teaching and learning as part of a Col create affordances for exchanges, collaborative knowledge, and cognitive and social abilities which can be taught and learned. The Col is composed by three spheres or "presences":

- Cognitive presence, which relates to the learners' ability to construct meaning by means of reflection and discourse (Garrison et al., 2001, p.11).
- Social presence, which refers to the ability to identify with the community, develop interpersonal relationships, and communicate within an environment of trust, communication and cohesion as a group (Garrison, 2009). It also projects participants socially and emotionally as real people (Garrison, Anderson, & Archer in Cleveland-Innes & Campbell, 2012, p. 282).
- Teaching presence, which joins the social and cognitive presences, focusing on design, facilitation, and direction of a Col (Vaughan et al., 2013, p.12). This presence extends to learners as well, taking into consideration that the teaching and learning roles should be interchangeable.

It is important to add that the Col framework, as expressed in the cognitive presence and the teaching presence, complemented and nurtured by the social presence (Garrison et al., 2001), can engender the conditions for critical thinking and reflection within the blended learning classroom. Due to its constructivist nature, the interactions and constant communication between instructors and students which unfold with the convergence of the three presences, allow for the creation of shared meaning and knowledge.

Collaborative Leadership

The last of the three theoretical spheres included in this research is Collaborative Leadership (CL) as developed by Garrison (2016). Also known as "leading collaboratively", it is based on what Vaughan et al. (2013) define as collaborative leadership: a way type of leadership which "instills common purpose, trust, and identification with the institution" (p.123). In Garrison's words (2016): "Leading collaboratively creates an organizational culture where leadership is a shared responsibility." (p.102). What this implies is that members of an organization will work together in order to face common challenges and reach common goals by means of collaboration and leadership.

It is important to notice that the three constituting theoretical spheres come together and overlap as key concepts: communication as expressed in dialogue and debate; teamwork, as prescribed by Collaborative Leadership and the social, cognitive, and teaching presences in the Col model, as well as Freire's approach of constant dialogue; problematization and finding solutions to common problems as part of the Col model, Collaborative Leadership, and Freire's Critical Pedagogy tenets.

Teaching and Learning of Critical Thinking (CT)

Regarding critical thinking and teacher training, Franco et al. (2018) stress the importance of creating an open curriculum that engages preservice teachers. Such curriculum should reflect the importance of critical thinking as a “collaborative dialogic environment” (p.135). Almulla (2018) and Menachery (2018) also expand on the importance of deliberative dialogue in the preservice teacher classroom as part of the curriculum and the class activities. Besides, critical reflection as discussed by Mezirow (1991) was analyzed as a tool for reflective professional practice by Moore (2019), Quesada (2005), and others.

Franco et al. (2018) state that critical thinking requires overt teaching in the preservice curriculum that is “open to students’ everyday life and real issues” (p.134). Such overt teaching means not only including critical thinking skills in the curriculum, but also pedagogical spaces in the classroom to put it into practice in a continuous way, within a “collaborative dialogic environment” (p.135). Mpofu and Maphalala (2017) add both explicit and implicit strategies for fostering critical thinking in the preservice classroom. Some explicit strategies are Socratic questioning, including questions for clarification, questions that probe assumptions, and questions that probe reason and evidence.

Teacher Training in Foreign Language Education and English as a Foreign Language (EFL)

In a their meta-study, Michelot et al. (2022) described critical thinking scores between French speaking preservice teachers in different countries. They established a relation between critical thinking and self-efficacy in literacy. They also concluded that involvement in professional life seemed to promote critical thinking in preservice teachers. In the case of the English language classroom, it has also been found that the teaching and development of critical thinking skills can have important benefits for students, as it enhances their learning process. As reviewed by Şchiopu (2018), for Marzano (1998), students can find flexible and innovative ways of solving problems, whereas for Hacker et al., (2009), students increase their skills to acquire a foreign language. Finally, in a case study focused on metacognition among preservice English teachers in Costa Rica, Quirós (2019) established that metacognitive knowledge should be explicitly taught and modeled by teacher mentors.

Methodology:

Based on the Convergent Model developed from a review of the literature, the research process answered the overarching research question: To what extent are critical thinking skills (as understood by Freire, 2005) taught and learned in Costa Rica’s EFL preservice teacher distance education classroom? As initial assumptions, the class to be observed would work as a Col. Also, FCP might be observable as part of the syllabus, class delivery, or both. Lastly, if FCP were present, then critical thinking would be taught and learned. In turn, FCP and Col would imply that CL was also being fostered.

The research was conducted as a single case study. As Creswell & Creswell (2018) point out, in case studies “the researcher develops an in-depth analysis of a case, often a program, event, activity, process, or one or more individuals. Cases are bounded by time and activity” (p.14). Participants were selected on a purposeful sampling basis to maximize time and cost-efficiency during the data collection and data analysis stages.

Data was collected by means of interviews with five preservice teacher students, a teacher mentor, and two administrative authorities; online questionnaires; non-participatory class observation; and artifact analysis during one term (14 weeks).

Next, data was analyzed applying Critical Discourse Analysis (CDA) and the Critical Case Study (CCS) methods. CDA, being trans-disciplinary and problem oriented (Rogers, 2011), allowed the use of Freire's Critical Pedagogy as a lens through which data could be interpreted. On the other hand, Bartlett and Vavrus (2017) state that CCS is focused on exploring the historical processes that have resulted in "a *sense* of shared place, purpose, or identity" (emphasis in the original, p.907). Data was analyzed during a 13-week period following the steps recommended by Creswell & Creswell (2018).

Main Findings:

Critical thinking skills were indeed taught and learned in the classroom. Key elements identified were teamwork, dialogue, democratic power relations, problem posing, problem solving, and a defined position about the role of teachers as agents of social change (Allman, 2009; Freire, 2005a; Giroux, 2011). Nevertheless, it cannot be described as a self-aware Freirean learning social environment but rather as a different type of Critical Pedagogy. Thus, FCP can only be described as "incomplete" or "insufficient".

The EFL preservice teacher classroom functions as a Col due to the abundant evidence of Cognitive, Teaching, and Social Presences. There was also plenty of taking place, which reflects CL tenets (Garrison, 2016) such as teamwork, working for a common goal, shared responsibility, finding and implementing joint solutions to the problems encountered.

Technology is an effective means for social learning and constructing knowledge (Moodle LMS, instant messaging, email) for both synchronous and asynchronous communication, teaching, and learning. Nevertheless, some participants were cautious about the misuse of technology inside and outside the classroom, which may be hindering the acquisition of CT skills as students could develop a false sense of knowledge due to information found on internet that they accept at face value.

Conclusions:

Critical Thinking is being taught and learned in the distance classroom studied, which is indeed performing as a Community of Inquiry. Participants are aware of their role as leaders and agents of change. On the other hand, since elements of Freire's Critical Pedagogy were observed but the critical Pedagogy being used is not overtly Freirean, the Convergent model was modified to tentatively describe it as a post-Freirean Critical Pedagogy (pFCP) instead. This premise is postulated as a potential tool that might facilitate learning, teaching, and applying critical thinking skills for freedom, and the teacher-students' own reflective professional practice as suggested by Quesada (2005).

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Proposal to determine the levels of virtuality at Universidad Estatal a Distancia de Costa Rica (UNED)

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Based on current trends in the use of Information and Communication Technologies (ICT), this proposal is based on a descriptive bibliographic review to conceptualize the levels of virtuality of the educational offer of the Universidad Estatal a Distancia de Costa Rica (UNED). These levels are: basic, intermediate and advanced and refer to the different categories or degrees of immersion that can be experienced in a virtual environment, in the same way they refer to how technology is integrated into the teaching and learning processes.

The proposal seeks to reconsider these existing levels of virtuality based on concepts such as interaction and interactivity and the appropriate use of technological tools in platforms or systems designed to facilitate and manage teaching and learning in virtual learning environments (EVA).

This implies considering the use of internal and external tools of the Learning Management System (LMS) to promote communication between students and teachers and at the same time optimize the use of EVA resources to achieve objectives through the development of content and the performance of learning activities.

Virtual learning environments often include features and functionality such as:

1. Access to educational materials: Students can access study materials such as documents, presentations, e-books, videos and multimedia resources relevant to their learning.
2. Communication and collaboration: EVA's facilitate communication between students and professors through tools such as discussion forums, real-time chats, internal messaging, and video conferencing. These tools provide a virtual space where students can access educational resources, participate in interactive activities, communicate with their peers and teachers, and track their academic progress. This allows interaction, the exchange of ideas and collaborative work online.
3. Assessment and follow-up activities: The EVA's offer functionalities to carry out online assessments, such as quizzes, homework and exams. They also provide tools to track academic progress, such as grades, participation records, and personalized feedback.
4. Personalization of learning: VLE's allow the adaptation and personalization of learning according to the individual needs of students. They can offer personalized learning paths, adaptive content, and recommendations based on each student's performance and interests.
5. Learning management: These environments provide tools for learning management, such as organizing materials, planning activities, and scheduling events. They can also integrate learning management systems (LMS) that allow administrators and instructors to manage courses and access to content.

Some popular examples of virtual learning environments include Moodle, Blackboard, Canvas, and Google Classroom. These systems are used by educational institutions around the world to offer online education programs and blended learning, as well as to complement face-to-face teaching with digital resources and interactive activities.

In the context of education, virtuality levels represent different ways in which technology is integrated into educational processes, from the use of interactive resources to the creation of fully immersive EVAs.

Additionally, the levels of virtuality describe the degree of interaction that both the student and the faculty must exercise in the teaching and learning process, making use of different didactic materials, techniques, strategies, and technological resources. Likewise, virtuality levels provide a way to classify digital experiences based on their level of immersion and realism, which allows a better understanding of the capabilities and limitations of technologies in different contexts.

The purpose of this proposal is to establish a clear difference between the levels and types of virtual environments that provide various possibilities of interaction, thus promoting interactivity with learning resources and interaction with and between the agents involved in the educational process.

In the context of virtual education, the basic, intermediate and advanced levels can be understood as follows:

Basic level:

At a basic level of virtuality, a fundamental understanding of the tools and concepts used in virtual learning environments is expected.

At this level, virtual education is primarily based on the delivery of online content, such as reading materials, videos, or presentations. Students have access to digital resources and can participate in simple activities, such as online discussion forums or assignments through the educational platform. The interaction between students and teachers can be limited and the main focus is the delivery of products.

Intermediate level

At this level, virtual education is enriched with interactive tools and resources. As a student or professional in the field of virtual education, an intermediate level of virtuality implies having a good command of the tools and techniques used in online learning environments.

At this level, collaboration and communication are fundamental elements that must be present. This is favorable for online learning, since it allows social interaction and collaboration in a shared virtual environment.

In addition to online materials, students can participate in more interactive activities such as online quizzes, virtual simulations, real-time discussions via chat or video conferencing, and collaborating on online projects. On the other hand, teachers can provide more personalized feedback and encourage student participation in the learning process.

Advanced level

At an advanced level, virtual education is characterized by a more complete and immersive learning experience. In addition to the interactive activities mentioned above, advanced technologies such as virtual reality (VR) and augmented reality (AR) are incorporated. Students can participate in VR or AR environments to experience realistic learning situations, run hands-on simulations, and visualize abstract concepts more concretely.

At this level, collaboration and communication in virtual environments are encouraged and more complex monitoring and evaluation tools are used. At this level of virtuality, the teacher is expected to achieve complete mastery of the tools, strategies, and methodologies used in virtual learning environments.

Finally, each level offers unique advantages and possibilities to enrich the educational experience and promote more effective and meaningful learning. It is also important to note that these levels are a general guide and that virtual education varies according to the needs and resources of each educational institution. As technology continues to advance, new tools and approaches may emerge in the future to further enrich the learning experience in virtual environments.

In short, virtual learning environments are technological platforms that facilitate the online educational process by providing access to resources, communication tools, assessment activities, and monitoring of academic progress. These environments play a crucial role in virtual education and offer an interactive and collaborative space for learning.

This research opens the way for future studies that define the specific tasks of teachers according to the level of virtuality and the use of tools in accordance with the virtual learning environment.

Application of the design thinking methodology in the development of mixed reality laboratories

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Introduction

In recent years, the need for simulation of spaces for education has developed, the evolution of virtual laboratories appears basically by the need to create support systems for teaching in different learning situations, managing to highlight through research such as that of Hernandez (2020) that some technological advances that have driven the development of virtual laboratories, being the new technologies based on the use of the Internet and virtualization, as well as training modalities, supported by ICT, leading to new conceptions of the teaching-learning process, giving rise to virtual laboratories. Virtual laboratories are educational environments that use technology to simulate laboratory experiences, allowing students to practice and learn interactively, without the need for physical equipment. They are effective tools that expand access and encourage hands-on learning in various fields of study.

On the other hand, Design Thinking methodology has emerged as an innovative and promising approach in the educational field. In particular, its application in the development of mixed reality laboratories has the potential to generate significant impact, since, by adopting a holistic and user-centered perspective, it allows addressing both technical aspects and students' needs and preferences. This iterative and collaborative approach has previously generated innovative and effective solutions, which is why it was taken into consideration in the development of mixed reality laboratories, which are part of a project carried out by the Universidad Autónoma de Nuevo León, the Universidad Autónoma de Guerrero and the Universidad Autónoma de Nayarit, in order to develop research on STEAM (Science, Technology, Engineering, Arts and Mathematics) education among multidisciplinary collectives, with support from CONACYT, by participating in the call for "Ciencia de Frontera" 2019 (Project 840810).

The objective of this paper is to highlight in particular how the Design Thinking methodology provides a systematic and creative approach to the development of educational resources in constant evolution, in the experience of the Universidad Autónoma de Nuevo León. The integration of mixed reality in education represents a growing field that challenges us to discover new ways to enhance learning and promote student participation, so this work aims to invite the development of resources and the application of emerging technologies to encourage the active participation of students and promote deeper and more meaningful learning. It seeks to foster innovation and the creation of environments that promote the active participation of students and enhance their educational experience.

Body

In the field of education, Information and Communication Technologies (ICT) have played a fundamental role in the transformation of teaching-learning processes. Within these ICTs, virtual laboratories have emerged as a promising tool to improve the quality and effectiveness of

exploration. Maurel et al., (2014), refers to virtual laboratories as “the representation of a place equipped with the means to carry out research, experiments and work of a scientific or technical nature, produced by a computer system, which produces or generates the sensation of its real existence.” (p. 4).

In other words, Sophos (2021) mentions that a virtual laboratory is considered a tool within ICT, which makes use of different programs available on the market adapted to each specific requirement. Its purpose is to provide additional options in the teaching-learning process of various subjects, offering a secure environment. Similarly, we can define virtual laboratories according to Palukh et al. (n.d.) as a dynamic model consisting of a set of control elements capable of regulating the experimental input parameters and reading the results obtained. In this way, the physical process flow is simulated. Nowadays, thanks to the development of computer graphics, it is possible to create highly realistic three-dimensional models of laboratory units, machine tools, devices, and other installations.

Regarding pedagogical approaches, Hernandez (2020) proposes the theory of meaningful learning, which argues that “laboratory practice is a powerful pedagogical strategy for the construction of operational skills” (p. 128). Therefore, it is essential that a simulated environment has a sound pedagogical methodology that facilitates meaningful learning for students, otherwise, the results obtained will be limited. It is emphasized that the integration of virtual laboratories has been supported for its potential to strengthen the pedagogical perspective and significantly improve the teaching-learning process. Virtual laboratories offer a series of advantages, of which Rodriguez (2019), mentions the following:

- They represent a minimal investment compared to a physical laboratory, and do not require maintenance costs.
- They prevent possible damage caused by misuse of real machines during practical training.
- They save space in laboratories by replacing large machinery.
- They allow access to expensive and sophisticated facilities that would otherwise be difficult to reach.
- Avoid problems and accidents associated with training in real situations.
- Make it possible to see hidden parts of a real machine through transparency options.
- Facilitate teaching in large groups by allowing students to view detailed explanations on a one-to-one basis.
- They offer a variety of possibilities to enhance the teaching and learning process.
- Promote learner autonomy and personalization of education by adapting to the teacher's preferences.
- They include interactive exercises that complement the training process in the corresponding subject matter (pp. 121-122).

Likewise, Carchipulla (2022) mentions that advances in virtual processes allow students to reproduce experiments as many times as necessary, thus encouraging self-learning and the use of resources without putting the environment at risk. Not only that, but also Ortiz et al. (2020), highlights that virtual laboratories allow reaching geographically dispersed students or saving time in traveling in large cities with high mobilization times; covering the need for

teaching in experimentation in educational centers with distance modality, in addition students can demonstrate phenomena that in a physical or remote laboratory are not possible, such as; the passage of electrons through a conductor, or that during the movement of an object the magnitudes of the forces can be observed.

In terms of difficulties, Lara et al. (2022) mention that the main issue is access, highlighting the following:

- Pages can be quite slow to load, and sometimes an error message appears at the end.
- Programs are too heavy, causing computers to slow down and, in some cases, they cannot be downloaded.
- Lack of own computer equipment is a limitation.
- Difficulty in accessing the Internet in some localities implies an additional expense for households (p. 4221).

Similarly, Felgueiras et al. (2019), mentions that, if the implementation of the courses is not carried out efficiently, students may lose interest, especially in the case of virtual laboratories, due to the difficulties that may arise in its use, which could affect learning. It is important to note that the success in the implementation of these modalities lies in the implementation process.

Description of the experience

Oriented to the innovation of products, spaces and services through creativity, design thinking involves a series of methods and practices historically used by designers. And, although in its beginnings the Design Thinking methodology was mainly associated with design professionals, its implementation has now been extended to various disciplines and professions, since the success of its effectiveness is such that it has moved from the workshop or design office to all corporate and business environments.

Urroz-Osés (2018) defines Design Thinking as a user-centered, collaborative design methodology that is based on empathy and that relies on prototyping to contrast its effectiveness, that does not follow a linear thinking process and that advocates the collaboration of various fields to find the best solution. It has become an optimal strategy for exploring new options, confronting diverse ideas and, as a result, making more effective decisions (Latorre et al., 2020).

The steps for the design process are as follows (Doorley et al., 2018, as cited in Lugo & Lucio, 2021):

- Empathize. This step is crucial to understand and connect with the people immersed in the design context. Observe and grasp their physical and emotional needs, as well as their perception of the world from their own perspective. Through this empathy, the designer acquires a deep understanding of people's interactions and emotions, which serves as inspiration to create innovative solutions focused on their needs.
- Define. At this stage, the findings are shaped and the problem statement or project objective is formulated. This is a crucial time to pinpoint strengths and weaknesses, especially in personal or professional development. The information obtained is used to

identify patterns and clearly define the objective to be addressed, based on the insights obtained.

- **Ideate.** The ideation process involves exploring a wide range of ideas collectively. The objective is to gather information to guide action. It seeks to come up with creative and innovative solutions that meet previously identified needs. This creative challenge requires an open perspective, flexibility and fluidity to generate the best possible options.
- **Prototyping.** In this phase, the convergence of ideas is materialized in prototypes. These prototypes represent a tangible and close-to-reality version of the proposed solutions. Testing and adjustment processes are carried out to materialize the most relevant idea and adapt it to the previously identified needs.
- **Validation.** The validation process involves presenting the final prototype to a group and obtaining feedback to validate or improve the proposed solutions. The feedback received is essential to assess the prototype and connect it to the initial empathy phase. The improvement and adjustment of the prototype is carried out with the objective of ensuring that it fully meets the needs of the people involved in the design process.

Through the application of the user-centered Design Thinking methodology, we were able to generate innovative solutions that fully meet the needs of the users. The research conducted allowed the experts to understand these needs in depth, and through ideation and prototyping sessions, they developed and refined ideas with a clear focus on the user experience.

To ensure quality and user satisfaction, this methodology was complemented with the ADDIE structured approach, thus guiding the instructional design for an effective implementation of the proposed solutions. When designing mixed reality learning objects, it is essential to follow good practices in both instructional design and usability. These practices enable the creation of immersive and effective learning experiences that maximize comprehension and retention of information. In terms of instructional design, it is essential to begin by clearly defining the learning objectives, which involves identifying the key concepts to be conveyed and determining how they can be effectively integrated into the mixed reality environment. It is important to structure the learning experience in a sequential and logical manner, providing a gradual progression of information and activities.

The development team, composed of programmers, instructional designers, graphic designers and content experts, worked collaboratively to develop learning objects. This is a multidisciplinary process, so experts from different areas were involved in a focus group, identifying relevant topics and ensuring the relevance of the content of the materials created. The close collaboration with these experts made it possible to enrich the materials with accurate and up-to-date information, thus ensuring quality self-directed education. The synergy of innovative approaches and close collaboration with experts in each subject area addressed has made it possible to offer an enriching educational experience aligned with pedagogical standards. Thanks to this combination, high quality materials have been developed and adapted to the needs of the users.

Through the programming of the 3D modeling and virtual interaction, it is expected to achieve the ideal results and the necessary experiences for a more meaningful learning by students. As part of the development of the resources, functional tests of the use of Oculus virtual reality

viewers were developed with the implementation of the necessary plugins for the execution of this type of viewers. Once the use of these viewers in the Unity environment was achieved, interactive scenes were created to allow the user to have an immersive experience in the environments created for each topic.

During the development process of the mixed reality laboratories with the Design Thinking methodology, we have sought to take the progress and results to different educational spaces and events. Presentations and workshops have been held at universities, high schools and other meetings, with the aim of actively promoting the democratization of these technologies and encouraging the creation of immersive content in different contexts. The Design Thinking methodology has been key in this process, stimulating creativity and collaboration in the conception and elaboration of the laboratories. Likewise, the dissemination of the resources in the Google, Apple and Oculus stores has been an essential step to boost the adoption and use of these materials in different educational institutions, allowing the general public to have access to the applications developed for Android, iOS and Oculus. In this way, access to these technologies has been facilitated and their reach has been extended to benefit a wide audience in their classes and courses.

Conclusion

It is recommended to take advantage of the unique benefits of mixed reality to promote active learning and experimentation. It is essential to design an intuitive and user-friendly interface, with accessible and understandable interactive elements. Interactivity plays a crucial role, allowing the active participation of learners and ensuring an effective learning experience. The visual design must be intuitive and relevant, while the content presented must be meaningful to users. Accessibility is also fundamental, considering the needs of all users and ensuring comfort in the use of virtual reality devices. Following good practices in instructional design and usability, as well as evaluating and validating resources, will ensure the quality and effectiveness of mixed reality learning objects in promoting learning.

The incorporation of Design Thinking for the development of virtual laboratories provided an opening towards creative problem solving and stimulates a more cooperative and holistic approach in the professional field. This methodology fosters critical and creative thinking skills, which is relevant both academically and socially. By promoting collaboration among professionals, innovative solutions are generated and social ties are strengthened.

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SMART API for the Detection and Prevention of Virtual Machine being used for e-Malpractice in e-learning environment

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Since the introduction of online learning and the widespread use of AI proctored examination systems, protecting the integrity of assessments has faced new difficulties. The development of reliable methods for detecting electronic cheating, notably the use of virtual machines during exams, has become essential with the rise of advanced cheating methods. In this research, a thorough methodology for identifying virtual machine usage in an AI proctored test system is presented. In order to uncover suspicious activities connected with the use of virtual machines, we offer a unique model that makes use of system resource parameters and cutting-edge machine learning techniques. Extensive experiments using simulated datasets are used to show the efficiency of the suggested model. The findings indicate accurate electronic cheating detection that is likely to improve academic evaluation integrity.

There are now more chances for academic evaluation thanks to the growing acceptance of online learning and remote testing platforms, but there are also new difficulties in maintaining the validity of exams. The creation of AI proctored test systems was prompted by the infeasibility of using conventional non-person proctoring techniques in distant settings. These methods have made it easier to remotely monitor and certify exams, but they are also open to electronic fraud, such as the use of virtual machines.

Users can utilize virtual machines (VMs) to run various operating systems and applications inside a host system in a sandboxed environment. VMs are a desirable option for students looking to get unfair advantages during exams due to their flexibility and seclusion. Students can get around the monitoring features of AI proctored systems and engage in dishonest behavior by executing unauthorized software or accessing forbidden resources inside a virtual computer.

Our research intends to create a reliable detection model that can spot instances of virtual machine utilization in the context of AI proctored exams in order to address this problem. We can find trends and abnormalities that are indicative of virtual machines by examining different system resource parameters, such as CPU utilization, memory utilization, network activity, disk usage, and power consumption.

The methodology of the suggested model, including the selection and collection of pertinent system resource parameters, is thoroughly examined in this study. With the use of a synthetic dataset resembling an AI proctored exam system, we describe the model's training and testing processes. We also go over the performance indicators and assessment metrics used to gauge how well the model performs in accurately recognizing virtual machine utilization.

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A Conceptual Framework for Designing Critical Artificial Intelligence Literacy Programmes for University Students in OFDL Settings

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Artificial Intelligence (AI) has dramatically increased its presence in society, becoming a phenomenon of profound relevance in many different spheres (Toumi, Holmes & Miller, 2022). In this context, it is essential to reflect and debate on the knowledge, skills and attitudes that will enable young people to understand, interact and make informed and responsible decisions about these technologies. Higher education institutions have a special call to attend to in this regard.

The issue can be approached from various perspectives: a) the deep, interdisciplinary and reflective knowledge needed by those who design and implement these systems; b) the specific capabilities that different professions will require to collaborate and share an increasing number of tasks with AI; and c) the analytical tools and essential capacities that all people will require to interact on a daily basis with the AI, regardless of their occupation.

Most of the work being done in this field has focused on programmes for computer science students or people with programming knowledge (Kong, Cheung & Zhang, 2023). However, the present paper will look at what has been called AI literacy (Long and Magerko, 2020; Miao et al., 2021; Ng et al. 2021; Miao, 2022; Flores and García, 2023; Sabzalieva and Valentini, 2023; Brew et al., 2023; Tenório et al., 2023), that is, the knowledge about AI that any young person will require regardless of their occupation or field of study.

Specifically, the purpose of the paper is to propose a conceptual framework for the designing of AI literacy programs for university students in open, flexible or distance learning contexts, from a critical approach.

The critical approach implies taking a different path from the more usual functional and utilitarian perspectives, focused on preparing people for the adoption of technologies under the pretext that they will have to live and interact permanently with them. On the contrary, a critical AI literacy would stimulate the capacity for questioning the origin, the context and the less visible impacts of these technologies.

In order to assess what critical AI literacy can imply, it is necessary to consider that AI is much more than a technology: it is also “a science, a business, a knowledge system, a set of narratives, relationships, an imaginary” (Adamson et al., s.f.). AI is a complex phenomenon that must be analyzed from various angles.

Starting from this conception, the proposed conceptual framework would cover common dimensions found in the AI literacy literature (Long and Magerko, 2020; Kong et al., 2021; Miao, 2022; Kong, Cheung & Zhang, 2023; Casal-Otero et al., 2023) such as the following:

- What is AI
- What can AI do
- How the AI works

- How AI should be used
- How people perceive AI

But, in addition, it would also include critical perspectives on AI as the following (Ricaurte, 2022; Ricaurte & Zasso, 2022; Selwyn, 2022; Crawford, 2021):

- How AI is produced
- Who produces AI and what their interests are
- How AI is being used in the world
- Which human rights could be violated by AI
- How AI could affect democracy
- What implications AI does have on the way we understand human intelligence, knowledge and truth
- What kind of relationship we want to exist between the human being and the AI

This broader view would allow the design of AI literacy programs that go beyond facilitating understanding on how this technology works, how to take advantage of it and how to critically evaluate its most immediate impacts. The objective would be to also develop the ability to research and question its origin and evolution, its visible and less visible effects on society and on people, in our way of thinking, feeling and relating. All this with the ultimate purpose of favoring the greatest possible autonomy and emancipation of people, and with it, their ability to compare, choose, build and transform the world.

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Student life among indigenous women in the context of distance higher education: the case of Mujeres Tejiendo-Nos

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The State Distance University (UNED) of Costa Rica was created in 1977 under Law No. 6044 as an institution of “higher education specialized in teaching through mass media” (1977:1) and a pioneer in distance education in Latin America.

UNED’s Institutional Policy Guidelines 2021-2025 pursue equity through democratization of higher education by using educational strategies tailored to each social, cultural, and economic context. This policy also emphasizes social inclusion, interculturality, multilingualism, and respect for diversity, all of which significantly impact the student life of UNED’s learning community.

Student life is a fundamental axis of dynamic and interconnected processes within the public universities of Costa Rica. These processes aim to promote access and equity, ensuring the comprehensive development and academic achievement of student populations (PLANES 2021-2022).

By the first academic period of 2023, UNED carried out enrolment in 36 university campuses distributed throughout the country. These campuses are located in urban, coastal, border, rural, and indigenous areas, including campuses in correctional facilities (Cascante-Gatgens, 2022).

UNED’s mission demonstrates a significant commitment to its student population, particularly those who, for various reasons, require diverse institutional initiatives to ensure their academic development. Indigenous student populations have not been an exception in shaping courses of action for service processes and the promotion of various research, outreach, teaching, and student life projects.

Moreover, policies, guidelines and agreements have been approved to guarantee the access and retention of indigenous students. As part of the Institutional Improvement Agreement (AMI) developed between 2014 and 2019, the Area of Indigenous Peoples Management (AGPI) was created, directly related to the fulfilment of the Five-Year Plan for Indigenous Peoples, developed by the four public universities involved in the project together with the indigenous communities of the country.

The Area of Indigenous Peoples Management (AGPI) implemented actions through an interdisciplinary team aimed at “improving access, retention, and cultural relevance in distance higher education for indigenous peoples” (PMI, 2014). These actions were carried out in collaboration with key stakeholders from universities, indigenous communities, as well as students from UNED self-identified as indigenous. This collaboration led to an increase in the attention of the indigenous student population and the sustainability of actions since 2020 by the Direction of Student Affairs of UNED, and the the Intercultural Coordination and Support Program (PROCAI).

This program manages, plans, and operationalizes projects, processes, and actions with an intercultural approach aimed at democratizing distance higher education. Through joint work

with students, their communities, and public and private entities, PROCAI seeks to ensure access, retention, and academic success for indigenous students in accordance with DAES 108-2019 guidelines of May 27, 2019.

PROCAI's team is characterized by its interdisciplinary approach, coordinated work, and cultural relevance, providing comprehensive support through Social Work, Vocational Counselling, Sociology, Indigenous Facilitation, research, and data analysis. PROCAI offers intercultural-focused student support and assistance during their pre-admission, admission, academic process, graduation, and post-graduation stages, by accompanying students in indigenous territories and facilitating communication within the institution (PROCAI, 2023).

PROCAI's Data Report for the year 2022: Students Self-Identified as Indigenous (Cascante-Gatgens, 2022) recorded 1,219 self-identified indigenous individuals enrolled at UNED. Specifically, the female population accounts for 70% of the indigenous students at UNED, 853 women. This population is distributed among the indigenous peoples of Bribri (32%), Cabécar (17.2%), Teribe, and Ngäbe (7.2%). It is worth noting that 21.7% of indigenous female students do not specify their particular indigenous group. Additionally, the female student population is concentrated in the Brunca region, with 54.4%, 25.2% in the Huetar Caribe region, and 16.4% in the Central region.

In the year 2022, indigenous women predominantly study careers related to education and teaching; 51% of the 853 women are studying General Basic Education (23.3%), Preschool Education (18.6%), and Business Administration (9.1%). Among the 35 majors enrolled by students for the year 2022, there were 8 STEAM programs (Science, Technology, Engineering, Arts, and Mathematics). Of the total of 1,219 self-identified indigenous students, 12.1% (148 individuals) are studying a STEM program offered by UNED in 2022. Among this total, 62.2% are women.

It is important to note that, in Costa Rica, conditions of inequality and social exclusion, specifically affecting indigenous communities, pose impediments to their enjoyment of rights and human development. According to the United Nations Development Programme (2030), education enables upward socioeconomic mobility and is key to escaping poverty. Some progress has been made in recent decades: more girls are enrolled in schools, fewer girls are forced into early marriage, more women hold positions in parliaments and leadership roles, and laws are being reformed to promote gender equality.

Despite these achievements, there are still many challenges: discriminatory laws and social norms continue to be widespread, women remain underrepresented at all levels of political leadership, and 1 in 5 women and girls between the ages of 15 and 49 report having experienced sexual or physical violence at the hands of an intimate partner within a 12-month period.

In Costa Rica, there is a need to delve deeper into the concrete reality of the rights enjoyed by individuals belonging to indigenous peoples, as citizens not only of Costa Rica but of the world. It seems that the lag, vulnerabilities, and limited successes in terms of access for these populations have become normalized as a historical continuum.

Considering institutional objectives, especially those of PROCAI, as well as the country's issues concerning indigenous peoples, which directly impact women, the space *Mujeres Tejiendo-Nos* (Women Weaving-Ourselves) is proposed. This space emerged in 2020 in response to the need

for the creation of committed spaces to address the needs of indigenous female students at UNED. Since its creation, active listening and providing a safe space have been the fundamental elements for addressing a variety of issues. Throughout its development, it has addressed topics related to women, student life, identities, rights, emotions, and the body (Parajeles; Cascante; 2022).

From the space *Mujeres Tejiendo-Nos*, joint actions are carried out to offer a safe space among indigenous women students at UNED, aiming to benefit self-identified indigenous female students by creating a secure environment that invites collective construction. Additionally, the space manages alternatives to implement strategies that strengthen their leadership and empowerment capacities as indigenous women. This space encourages student participation in topics proposed by themselves for both their professional development and as indigenous women bearers of ancestral knowledge from their native territories.

For *Mujeres Tejiendo-Nos*, networking is particularly relevant as it fosters connections with both internal and external groups at UNED. In this sense, Gutiérrez et al. (2006) highlight that networking in Higher Education Institutions has a broader scope by promoting intersectoral triangulation among Higher Education, Government, and the Productive Sector, which motivates knowledge transfer.

The objective of this proposal is to present *Mujeres Tejiendo-Nos* as a successful experience in the context of online and distance higher education to promote student life among indigenous women students at UNED. This will be achieved by organizing the initiative's processes and its main impacting factors. (Berdegué, 2000). The systematization of experiences is essential for learning, strengthening practice, generating knowledge, and becoming accountable in academic and professional realms. By documenting and systematically analysing experiences, valuable lessons can be obtained, contributing to the development and improvement of future interventions (Acosta, 2005).

Mujeres Tejiendo-Nos takes a critical review the intersection of modern colonial systems with gender and promotes a symmetrical and intercultural dialogue with various sectors and individuals. Its social, educational, and regional fabric is sustained through the collaborative work of community feminisms and the sensitivity to feel, think, and act from the diverse worldviews of indigenous peoples in Costa Rica.

The theoretical and methodological approach to the experiences of indigenous women students, which influence the persistence of indigenous women, is vital in shaping current scenarios of coexistence and future education scenarios.

We present the main strategies, actions, and activities (Acosta, 2005) that have been carried out in the successful space *Mujeres Tejiendo-Nos* within the context of online and distance higher education, with the aim of promoting the student life of indigenous women students at UNED.

Following Acosta's recommendations (2005), the process of *Mujeres Tejiendo-Nos* will be presented through five fundamental elements: the activities that constitute the process, the timeline, the role of key actors, the methods or strategies employed, and the resources used for the development of the activities.

The activities that make up the *Mujeres Tejiendo-Nos* Space are diverse and cover different levels. They are designed for a hybrid context, combining both in-person and online, digital

actions throughout the year to reach a larger number of students in the best possible way. The modalities respond to strategies proposed by the managing team and to the needs expressed by the students, needs such as difficulties with public transportation, internet access, and family responsibilities. The activities include workshops, talks, courses, and creative spaces. The temporal scope considered for this article corresponds to the period 2022-2023.

Each person involved in the activities of *Mujeres Tejiendo-Nos* plays a fundamental role. The team managing the space is intercultural and multidisciplinary, consisting of an indigenous university facilitator from the Brunca Region, coming from the indigenous territory of Boruca; another indigenous university facilitator from the Huetar Caribe Region, from the indigenous territory of Talamanca; a Social Worker in the Chorotega Region, and a coordinator located in the metropolitan area. Each member contributes from their respective disciplines, such as Natural Resources, Human Resources, Social Work, and Business Research, allowing for a creative and innovative vision for the formulation of strategies and actions.

Furthermore, the participation of university actors is crucial for the success of the spaces. Constant communication is maintained with the university campuses, which provide the necessary support for physical infrastructure, to create safe and recognized spaces for the students. Additionally, their knowledge about the dynamics of the territories enriches each one of the activities.

Regarding the strategies employed for the development of activities, an overall annual planning is carried out first, which includes estimating the necessary resources related to physical infrastructure, budget for travels and meals, teaching materials, transportation, and internal and external partnerships, as well as digital communication platforms. Additionally, specific planning is made for each activity, ensuring the incorporation of the indigenous student perspective through direct consultations with the students and contributions from university facilitators in indigenous territories.

Constant communication and listening are essential for the success of each activity. This listening focuses on addressing the real needs and interests of the students, both in face-to-face and online spaces. Therefore, open dialogue is encouraged with different university campuses, students, and other departments and stakeholders involved in the strategies for the activities with the students.

The managing team of *Mujeres Tejiendo-Nos* undergoes continuous training on diverse topics such as gender, interculturality, and higher education. The Space seeks to enrich its work through national and international presentations, which allows receiving feedback and learnings from other organizations related to *Mujeres Tejiendo-Nos*, PROCAI, and UNED.

The importance of coordination and networking with and from the territories, communities, and student groups, as well as with the university campuses, is emphasized. The execution of each activity takes place by creating safe spaces for indigenous women students, fostering dialogues and reflections about their student lives and different roles. In this way, the *Mujeres Tejiendo-Nos* Space has stood out as a successful case of inclusive higher education and promotion of student life among indigenous women students at UNED.

In the following section, a summary of the main activities resulting from the processes of *Mujeres Tejiendo-Nos* in the period 2022-2023 is presented.

In 2022, the online annual closing of *Mujeres Tejiendo-Nos* took place with the participation of national and international experts. In 2023, three virtual spaces were offered. The first focused on recognizing emotions, the second addressed the topic of menstrual health, and the third focused on a review of the APA Style Manual. It is worth noting that for the remainder of the year, talks focused on gender-based violence, study techniques, and a conversation with students at different academic levels are scheduled, as well as the online closing of *Mujeres Tejiendo-Nos* 2023.

Throughout 2022 and 2023, in-person meetings and workshops have been conducted in various regions of the country, including indigenous territories. Four meetings were held in Talamasca (indigenous territory), Guatuso (indigenous territory), Ciudad Neily, and Osa. So far in 2023, workshops have been conducted in Puriscal, San José, Turrialba, San Carlos, Talamasca (indigenous territory), Limón, Pérez Zeledón, Buenos Aires (indigenous territory), and Zapatón (indigenous territory). Additionally, a recognition visit to indigenous territories was conducted in Turrialba in the Cabécar indigenous territory. As part of the in-person activities, a forum is planned for 2023 to introduce the university work of diverse populations, including students from indigenous territories, specifically women, to the national community. Additionally, an annual in-person meeting will be held at the end of the year.

A student consultation was also carried out as a listening space to directly understand the topics of interest for the students to be developed in online and in-person spaces.

Regarding dissemination efforts, the *Mujeres Tejiendo-Nos* Space has been presented in various spaces, such as national radio interviews and online international activities in Mexico and Colombia. The team managing *Mujeres Tejiendo-Nos* has received training in gender-related topics from competent institutions such as the National Accreditation System (SINAES) and the National Institute for Women (INAMU). They are currently working on generating a workshop aimed at acquiring intercultural skills.

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Better Understanding of Educational Experience Related to the Soft-skills Development in Open-Distance Learning Settings

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This paper is outlined in six sections: (1) Introduction – it includes the background and significance of the study, research objectives, and questions, (2) Literature Review – it includes concepts and characteristics of ODL, the importance of soft skills in educational contexts, previous research on soft skills development in ODL, research on the relationship between the independent variables and soft skills, and the impact of soft skills on predicting the future and mitigating gaps, (3) Methodology – it includes research design and approach, sampling strategy and participant selection, data collection methods for both qualitative and quantitative approaches, measurement instruments for variables, and data analysis procedures for each type of data, (4) Results and Discussions – it includes the presentation of thematic qualitative data, analysis of limited quantitative data, examination of the relationships between variables, and the mediating role of soft skills competencies, the interim interpretation of findings, implications for ODL environments, recommendations for enhancing soft skills development, and potential future research directions, and (5) Concluding Remarks – it includes a summary of key findings, contributions to the field, limitations of the study, and final remarks for further inquiry.

Methodically, inspired by and following both Creswell (2015) and Creswell and Plano (2018), to augment and supplement the findings and discussions respectively, the study follows the nine-syntax orientation as a result of choosing the exploratory design approach. It is a part of mixed methods where the qualitative processes are conducted first and then followed by a quantitative approach (Whittemore & Knafl, 2005; Onwuegbuzie & Frels, 2015; Williams, 2018; Hair, Hult, Ringle & Sarstedt, 2022). Here are the nine-syntax procedures utilized in this inquiry.

1. Overview of the mixed-method, exploratory design and its suitability for the research objectives
2. Description of the target population, i.e., students engaged in ODL and justification for their selection
3. Explanation of the sampling strategy, i.e., criteria for participant inclusion and determination of sample size
4. Overview of the data collection methods, including qualitative interviews or focus group discussions, and quantitative surveys
5. Description of the measurement instruments used to assess the variables (creativity, critical thinking, initiative, teamwork, networking, soft skills competencies, predicting the future, and mitigating gaps)
6. Explanation of the data analysis procedures for both qualitative and quantitative data, including thematic analysis and statistical techniques
7. Discussion of how the integration of qualitative and quantitative data will be conducted to gain a comprehensive understanding related to the research questions accordingly

8. Acknowledgment of the limitations inherent in an exploratory design approach and a potential source of bias
9. Summary of the step-by-step research methodology employed in the study.

Interim findings, arguments, and orientation

Starting with the first provisional findings let us refer to Figure 1. Operationally, creativity (X_1), as the first independent variable out of five, includes: developing original ideas (X_{11}), proposing a solution (X_{12}), and implementing a solution (X_{13}). Besides, critical thinking (X_2), as the second independent variable out of five, includes: analyzing critically (X_{21}), estimating the risks (X_{22}), and evaluating solutions (X_{23}). In addition, initiative (X_3), as the third independent variable out of five, includes: influencing others (X_{31}), starting activities (X_{32}), and influencing decision makers (X_{33}). Correspondingly, teamwork (X_4), as the fourth independent variable out of five, includes: working effectively with others (X_{41}), tolerating differences (X_{42}), and respecting other opinions (X_{43}). Moreover, networking (X_5), as the fifth independent variable out of five, includes: establishing an internal network (X_{51}), establishing an external networking (X_{52}), and fostering network sustainability (X_{53}).

Respectively, soft-skills competencies (Y_1), as a moderating variable, includes: creating opportunities (Y_{11}), making decisions (Y_{12}), and taking risks (Y_{13}).

In contrast, predicting the future (Y_2), as the first dependent variable out of two, includes: reading strategic conditions (Y_{21}), building a futuristic vision (Y_{22}), and realizing a shared vision (Y_{23}). Likewise, mitigating the gaps (Y_3), as the second dependent variable out of two, includes: visualizing potential risks (Y_{31}), calculating the risks (Y_{32}), and formulating alternatives to mitigate the risks (Y_{33}).

The importance of soft skills competencies development in ODL outlooks

ODL has emerged as a significant force in mODLrn education, offering learners the flexibility and accessibility to acquire knowledge and skills from the comfort of their own environments. While ODL provides an excellent platform for academic and professional development, it's vital to recognize the importance of soft skills competency development in this context. As outlined by and to a certain extent relevant to this discourse (Lamri & Lubart, 2023), this is the significance of soft skills in the ODL landscape related to:

- Preparing students for a dynamic workforce: In the 21st century, the workforce demands more than just technical expertise. Employers seek candidates with strong soft skills such as communication, problem-solving, adaptability, and critical thinking. ODL institutions should prioritize the cultivation of these skills to equip their learners with the tools they need to excel in a rapidly evolving job market.
- Enhancing career prospects: Soft skills are often differentiators in the job market. A well-rounded skill set that includes effective communication, teamwork, and leadership abilities can give ODL graduates an edge in job interviews and career advancement. This enhances the employability of ODL students and contributes to their long-term success.

- **Facilitating effective collaboration:** ODL involves collaborative projects and discussions among remote learners. Developing soft skills like teamwork, empathy, and conflict resolution is crucial for fostering positive interactions in virtual learning environments. These skills facilitate effective group work and the exchange of diverse perspectives, enriching the educational experience.
- **Empowering self-directed learning:** ODL learners must be self-motivated and capable of managing their time and resources effectively. Soft skills like self-discipline, time management, and goal-setting empower students to take control of their learning journey. These skills are not only beneficial for their education but also for lifelong learning beyond formal education.
- **Improving communication and feedback mechanisms:** Effective soft skills, especially communication and active listening, are essential for students to interact with instructors, peers, and support staff in an ODL setting. Open channels of communication and constructive feedback mechanisms are integral to resolving issues, improving the learning experience, and addressing students' concerns.
- **Nurturing emotional intelligence:** Emotional intelligence is a key component of soft skills development. It helps learners understand their emotions and the emotions of others, promoting empathy, resilience, and stress management. These skills are vital in dealing with the challenges and pressures of remote learning.
- **Encouraging holistic development:** Soft skills are not confined to a particular career or field of study. They contribute to personal growth and well-rounded development. In an ODL context, where learners come from diverse backgrounds and cultures, nurturing these skills can lead to a more inclusive and supportive learning environment.

The relationships between independent, mediating, and dependent variables

Understanding the relationships and argumentative explanations between the independent variables (creativity, critical thinking, initiative, teamwork, and networking), the mediating variable (soft skills competencies), and the two dependent variables (predict the future and mitigate the gaps) in the context of open distance learning for soft skills development can provide valuable insights into the educational experience (<https://www.indeed.com/career-advice/career-development/types-of-variables>). These are the elaborations in detail.

- **Creativity and soft skills competencies:** Creativity can contribute to soft skills development by fostering innovation and problem-solving abilities. Creative individuals often exhibit strong communication, adaptability, and leadership skills. They can help anticipate future trends and challenges by thinking outside the box and envisioning novel solutions. Additionally, creativity can be harnessed to bridge gaps by generating innovative approaches to address shortcomings in skill development.
- **Critical Thinking and soft skills competencies:** Critical thinking is a fundamental skill for decision-making and problem-solving, which are essential soft skills. It enhances analytical and research capabilities. Critical thinkers can analyze data and trends to make informed predictions about future scenarios and make them valuable. Besides, critical thinking

allows for a systematic evaluation of skill gaps and the formulation of effective strategies to close them.

- Initiative and soft skills competencies: Initiative is closely linked to motivation, self-discipline, and time management, all of which contribute to the development of soft skills. Initiative-driven individuals are proactive in seeking opportunities and adapting to change, making them well-positioned to predict future educational and career needs. Besides, initiators take action to address skill gaps by actively seeking resources, training, or collaboration to enhance their competencies.
- Teamwork and soft skills competencies: Teamwork is a cornerstone of soft skills development, as it involves collaboration, communication, and conflict resolution. Effective teamwork skills enable individuals to work together harmoniously and anticipate future needs and trends collectively. Correspondingly, teamwork helps in bridging skill gaps through shared learning experiences and mutual support among learners.
- Networking and soft skills competencies: Networking fosters interpersonal and communication skills, which are integral to soft skills competencies. A strong network can provide valuable insights and information about emerging trends and opportunities. In addition, networking can facilitate access to mentors, peers, and resources that help learners address and close gaps in their soft skills.

Soft skills competencies serve as a mediating variable between the independent variables (creativity, critical thinking, initiative, teamwork, and networking) and the dependent variables (predicting the future and mitigating the gaps). They represent the bridge through which these independent variables influence the educational experience in ODL settings.

Predict the future, as the first dependent variable out of two, assesses the ability to anticipate and adapt to changes in educational and professional contexts. It is influenced by the combination of creativity, critical thinking, initiative, teamwork, and networking, all of which contribute to a learner's capacity to foresee future developments. Respectively, mitigate the gaps, as the second variable out of two, focuses on the capacity to identify and address skill gaps in the learning process. It is influenced by the same set of independent variables, which collectively enable learners to develop strategies for addressing and closing these gaps.

Mediating role between independent and dependent variables

The mediating role of soft skills competencies in the relationship between the independent variables (creativity, critical thinking, initiative, teamwork, and networking) and future outcomes (predicting the future and mitigating the gaps) is pivotal in understanding the educational experience of soft skills development ODL context (MacKinnon, Fairchild & Fritz, 2007). These are brief explanation and their rationale.

Soft skills competencies act as an intermediary factor that links the independent variables (creativity, critical thinking, initiative, teamwork, and networking) to the future outcomes (predicting the future and mitigating the gaps). This mediation occurs because the development of soft skills is intricately connected to these independent variables. Creativity, critical thinking, initiative, teamwork, and networking contribute to the acquisition and refinement of various soft

skills such as communication, adaptability, leadership, and problem-solving. Soft skills, once developed, then influence learners' ability to predict future trends and challenges, as well as their capacity to effectively address and close gaps in their skills in the context of ODL.

Rationale: (1) Soft skills are foundational for success in education and the workforce. They enable learners to navigate complex challenges, communicate effectively, and collaborate with others, all of which are essential in open distance learning and (2) Creativity, critical thinking, initiative, teamwork, and networking are drivers of soft skills development. For example, teamwork enhances communication and collaboration skills, while critical thinking supports effective problem-solving.

The relationship between the independent variables and future outcomes is not direct but rather operates through the development of soft skills. Learners who excel in the independent variables are more likely to cultivate a broad range of soft skills, which, in turn, enable them to predict the future effectively and mitigate skill gaps. Recognizing the mediating role of soft skills competencies underscores the significance of a holistic approach to education, focusing on both the development of specific skills and the broader soft skills that enable learners to thrive in the dynamic and evolving landscape of open distance learning.

Concisely, the mediating role of soft skills competencies serves as the bridge that connects the development of core competencies (independent variables) with learners' ability to predict the future and address skill gaps (dependent variables) in the context of open distance learning. This understanding is fundamental for crafting effective educational strategies and programs tailored to soft skills development.

The implications of soft skills development for predicting the future and mitigating gaps

Soft skills development in the context of ODL has significant implications for predicting the future and mitigating gaps, as highlighted by Dronova, Konkin, Seregina, Bermudes-Alekina & Kotenko (2021). These are some significant arguments to better understand how these overall contexts are delivered through ODL systems.

These are the visualizations of the capability to predict the future.

- **Adaptability and resilience:** Soft skills such as adaptability and resilience, which can be fostered through ODL, enable learners to thrive in rapidly changing educational and professional landscapes. They are better equipped to anticipate and navigate future shifts in industries and technologies.
- **Problem-solving abilities:** ODL promotes critical thinking and problem-solving skills, vital for predicting future challenges and devising innovative solutions. Learners become adept at analyzing trends and foreseeing potential obstacles.
- **Self-motivation:** In ODL, students often need to manage their learning independently. This self-motivation, a soft skill, is key to setting and achieving personal and professional goals. It helps learners predict and work towards their future success.
- **Technological proficiency:** ODL typically involves the use of technology. Proficiency in tech-related soft skills like digital literacy and online communication is crucial for anticipating the future in an increasingly digital world.

Equally, these are the visualizations of the capability to mitigate.

- Communication and collaboration skills: Effective communication and collaboration, honed in ODL, help bridge gaps between learners and instructors, as well as among peers. These skills are essential for overcoming disparities in understanding and support.
- Adaptation to diverse learning styles: ODL often accommodates a wide range of learners with diverse backgrounds and learning styles. Soft skills like adaptability and empathy facilitate the creation of inclusive learning environments that mitigate gaps among these learners.
- Feedback-seeking behavior: Soft skills development in ODL encourages learners to seek feedback, learn from their mistakes, and continually improve. This proactive approach addresses gaps in knowledge and performance.
- Time and self-management: ODL teaches time and self-management skills, which are indispensable for addressing gaps in learning. Learners can structure their study routines to focus on areas where they need improvement.

Next, it is about critical implications that need to be cautiously considered as anticipation to avoid potential unintended corollaries.

- Personalized learning: ODL can tailor instruction to individual needs, allowing learners to focus on specific soft skills that will serve them best in predicting the future and closing skill gaps.
- Lifelong learning: Soft skills are not static; they evolve with time. ODL emphasizes the importance of ongoing skill development, which is crucial for staying relevant in the face of changing educational and career landscapes.
- Employability: Graduates of ODL programs with strong soft skills are well-prepared for the job market, as they possess the ability to predict industry trends and address skill gaps through continuous learning and adaptability.
- Global collaboration: ODL often connects learners from around the world. Soft skills like intercultural competence, developed through global collaboration, enhance their ability to predict global trends and navigate global skill gaps.

Transitorily, soft skills development in ODL equips learners with the tools they need to predict the future and effectively mitigate gaps in their education. These skills are instrumental in adapting to an ever-changing world, fostering inclusive learning environments, and enhancing employability in a dynamic job market. ODL plays a crucial role in delivering these skill development opportunities to a diverse and global audience.

Critical remarks

To sum up, this inquiry conditionally and provisionally offers a comprehensive exploration of the intricate relationships between soft skills competencies and key dimensions of student experiences in the context of ODL. It implies that further study by totally accomplishing the quantitative part still needs to be completed soon. The findings, again, tentatively underscore the significance of creativity, critical thinking, initiative, teamwork, and networking as decisive

contributors to soft skills competencies. The study therefore should authenticate the essential role of soft skills in fostering positive ODL student behaviors and experiences under a comprehensive quantitative approach. Through meticulous statistical analysis, the study will provide empirical evidence that supports the established hypotheses. It will contribute to the existing literature by addressing research gaps to introduce new insights.

Ensuring that the implementation of ODL does not slip into emergency remote teaching (ERT) is crucial. This is to maintain the quality and effectiveness of the educational experience as accentuated by Hodges, Moore, Lockee, Trust and Bond (2020) and Whittle, Tiwari, Yan and Williams (2020). It is valuable to maintain the quality of education, exclusively in ODL, as it originally aspires to provide a structured, planned, and well-designed learning experience that meets specific learning objectives. It incorporates thoughtful instructional design, ongoing support, and assessment strategies. Be wise and be aware that ERT is a temporary and reactive measure in response to unforeseen circumstances, such as natural disasters or public health emergencies. By preventing the slip into ERT, ODL institutions can maintain the quality of education they intend to deliver.

Besides, ODL should be assured to emphasize interactive learning experiences, collaborative activities, and meaningful engagement with course content (Sembiring, 2021; Sembiring, 2022a). These elements promote active learning, critical thinking, and social interaction among learners. This is crucial for developing soft skills through ODL practice. Again, be wise and be alert that ERT is often implemented under time constraints, may lack the same level of engagement and interaction, and leads to a passive learning experience viewed from students' standpoint.

Last but not least, ODL institutions should build their reputation based on the quality of education provided. By upholding the standards of ODL, they can confidently establish credibility and trust among students and stakeholders. By maintaining the principles of ODL, institutions can progressively provide a robust and effective learning experience for their students regardless of the circumstances (Sembiring, 2022b). In this stage, the ODL is the answer to accomplishing quality education open to all worldwide.

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Active AI: Reviewing Our Hands-On Encounter with Generative AI in the Educational Landscape

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Generative Artificial Intelligence (GenAI) was the focus of our online workshop called “GenAI playground”, that explored the rapidly evolving and widely accessible technology revolutionizing how we produce and consume multimedia content. We embarked on this journey to understand GenAI’s capabilities, limitations, and ethical considerations, while preparing secondary school educators to integrate this technology effectively in their classrooms.

Our 20-hour online workshop served as an exploratory platform, providing hands-on experience with GenAI, enabling 72 secondary school teachers to envisage concrete applications in their educational activities. The goal was to familiarize participants with the concept, utility, challenges, and educational possibilities of GenAI through direct experience, readings, and discussions, leading them to propose one practical application with the respective assessment proposal, and a concrete proposal of a GenAI policy for their specific classes.

Specific objectives were aimed at acquainting participants with GenAI applications such as ChatGPT, D-ID, Tome, and Minicourse Generator. They experienced firsthand the potential of GenAI in generating text, image, and video, and used this experience to restructure one educational activity to leverage this technology. Challenges were set to create effective prompts, discussions held on the ethical implications of using GenAI in education, and steps taken to define a personalized work policy.

In recognizing that the integration of GenAI in high school education presents both significant challenges and valuable opportunities, this workshop aimed to prepare teachers for future professional avenues while promoting a critical and reflective understanding of technology.

In this presentation, we will provide a comprehensive review of the feedback gathered from a post-workshop survey conducted among the participants, along with an in-depth analysis of the overall online-workshop experience and its impact on the educational landscape. Our team will be replicating this experience 14 more times through a MOOC format, extending this opportunity to a cohort of approximately 1400 teachers.

Pushing at the boundaries: The dissertation by ePortfolio

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Introduction and Background

In the early days of the development of my proposal for the Doctorate in Education (Distance Education) degree (EdD), I (the student, Margaret) felt pulled off the digitally written page into an ePortfolio. I was finding the two-dimensional space to be too limiting of my thought processes and expression after being introduced to ePortfolio pedagogy in two of my doctoral courses. As I began to consider the research and documentation process I planned to pursue I saw alignment with the affordances of an electronic portfolio. I started to wonder about the possibility of an ePortfolio as the doctoral document, rather than the traditional monograph. When I should have been narrowing my focus on the topic of my research questions, I began to think about bigger questions surrounding assessment and activism at the doctoral level (Canadian Association for Graduate Studies [CAGS], 2018; Currin et al., 2023), recognizing some congruence with the Carnegie Project on the Professional Doctorate, particularly the focus on “equity, ethics and social justice to bring about solutions to complex problems of practice” (Carnegie Project on the Education Doctorate [CPED], n.d.) and thinking there had to be a way to make this work.

I (Margaret) was curious about the appetite within the university to disrupt and decolonize the dissertation, reassess the assessment, re-imagine what a doctoral project might look like. At the same time, Debra (my supervisor) had been exploring the multiple applications of ePortfolios in academia and elsewhere for their capacity to enhance and expand lifelong and life-wide learning among students and instructors (Hoven, 2019). Critical in this exploration is the role of reflection on experiences of learning, particularly for the transformative capacity in relation to values, beliefs, and assumptions (Hoven, 2019; Hoven et al., 2021).

“Is not the point of critical inquiry to push at boundaries and question the status quo?” The question sits there in time, mocking me. In a deliberate act of decolonization, I bring forward my idea to Debra checking in to see if we can expand on what the dissertation might look like by utilizing a digital ePortfolio environment instead of creating a traditional five [or more] chaptered monograph. One graduand of our Doctorate in Education program completed an ethnographic dissertation about ePortfolio pedagogy, however the work itself is presented as a traditional monograph (Prokopetz, 2019). For my dissertation, ePortfolio is the vehicle by which I present the dissertation itself – using reflective writing as a method to create space for the study of my own teaching practice (Kitchen, 2021). In addition to text-based content, photographs, videos, and perhaps audio recordings supplement manifestations of thoughts on online advanced nursing education, labyrinths, the land, life, the universe, and everything (Adams, 1995; P. L. Chinn & Falk-Rafael, 2018; A. R. Falk-Rafael, 2015; Styres, 2017; Zinga, 2019).

I start dreaming an ePortfolio that embraces other modalities including (but not limited to) images, video, sound, and if I can figure out how to make one, a game. This is retrospective forward-thinking critical digital autoethnography as evolving and emerging critical digital scholarship. As Boylorn & Orbe (2021) note, “Critical autoethnography is a strategic approach that critiques

and challenges cultural and hegemonic standards” (p. 6); creating space to imagine and find a new way forward. How better to enact than by presenting the work in a new way?

Meanwhile, Debra was working with the Faculty of Graduate Studies to reconceptualize and open guidelines around “acceptable” modes of dissertation modality and presentation. This critical digital autoethnographic ePortfolio dissertation is an example of writing as one line of inquiry (Kitchen, 2021) in a multimodal project (Brabazon, 2020). We see strong parallels between my work and that of Coleman (2017), except Dr. Coleman is talking about teaching art and creating art as research; she and others who practice what we understand to be digital artography are artists by profession, pushing boundaries of where and how art presents and may be taught. Like Coleman, we approach this work as disruptors, decolorizers, conciliators but I (Margaret) am a nurse, so perhaps what I practice is critical digital nursography. It is in this space I dream nursing theory and critical caring pedagogy (Chinn & Kramer, 2017; Chinn & Falk-Rafael, 2018; Falk-Rafael, 2005; Falk-Rafael & Betker, 2012; Falk-Rafael, 2015; Flores & Alfaro, 2022; Killam et al., 2022) rooted in intersectional ecofeminism (Carfore, 2021; Chiro, 2021; Eaton, 2021; hooks, 1994, 2003, 2018; Smith, 2005) as practice while I attempt to answer my research question.

Margaret and I (Debra) thus began our journey of looking beyond the traditional single monograph to open new space to re-imagine what the dissertation might be recognizing “alternative forms of expression can elicit more nuanced understanding of complex topics” (CAGS, 2018, p. 5). As Margaret attempted to first squeeze herself into and then push against, to break through the borders of the monograph, together we were inspired to create something that others who seek to disrupt may find useful. Our plan evolved to utilize ePortfolio as an alternative to the monograph, exploiting the affordances of the digital and networked environment to shed the two-dimensional, chronologically-bound, linear, written product (Canadian Association for Graduate Studies [CAGS], 2018; Maxwell & Kupczyk-Romanczuk, 2004). Instead of a traditional five (or more) chaptered monograph, the ePortfolio structure is used as an instrument by which to communicate reflective and reflexive research contributions to advance knowledge and professional practice within the workplace (Maxwell and Kupczyk-Romanczuk, 2004). As our exploration of how to present this new process developed, we identified partial alignment with the dissertation by publication format, in which “two to three stand-alone articles that have been published or are ready for submission; the author adds an introduction and conclusion linking together the articles” (CAGS, 2018, p. 7). However, critical autoethnography really does not neatly sit with either the monograph or the dissertation by publication format, due to the nature of the method which in and of itself is “both process and product” (Ellis et al., 2011).

Nevertheless, the need for an introduction and a conclusion remains. The evolution and transformation of Margaret’s thought development at different moments in time on interconnected topics offer a new way to engage with the doctoral artifact without linear constraints, by using menus and hyperlinks in an ePortfolio. In this modality, readers can explore Margaret’s proposals for disrupting traditional, colonial approaches to graduate nursing education with links to examples and illustrations. There are myriad ways to engage with this work inviting the reader to try on new ideas or think about old ideas in new ways as they explore.

The use of a portfolio or ePortfolio pedagogy as the product of the doctoral dissertation is relatively new with limited examples described in the literature. A quick multi-database literature

search of the terms ((ePortfolio) OR (digital portfolio)) AND ((dissertation) OR (doctorate)) AND ((autoethnograph*) OR (critical autoethnograph*)) that was limited by subject of 'doctoral student' resulted in two papers in the past 25 years. I (Margaret) could not believe it. There are whole journals about ePortfolio yet my search terms did not elicit student experiences or collaborative reporting easy to locate. Sparks and Chang (2021) utilize systems thinking when they describe doctoral portfolio projects as alternative to dissertation. Dissertation by portfolio is primarily described as a collection of essays or reports of research with the expectation that each paper can stand on its own as an individual publication but when brought together becomes a cohesive whole (Sparks & Chang). While I (Margaret) expect the components of my critical autoethnography have the capacity to and will stand alone, it is the cohesive whole of an interrelated system that brings nuanced and layered elements to the depth of reflection the reader of my ePortfolio dissertation is invited into. This is not a monograph dressed up like a portfolio.

I (Margaret) seek to disrupt at what Meadows (1999) identifies as the number one place to intervene in a system: "the mindset or paradigm out of which the system – its goals, power structure, rules, its culture arises" (p. 2). My leverage points are multifocal and multimodal – I have the privilege of time to explore my topic deeply, I have no conflicts of interest other than being invested in disrupting the white European colonial story of Canadian nursing education in the interest of pursuing right relationships (Hantke et al., 2022). I believe in the project, and I somehow manage to carry hope and optimism while the planet is burning. I am so grateful for the opportunity doctoral studies has afforded me, and now that Debra's important behind-the-scenes work to ensure the ePortfolio space is open for me to occupy has come to fruition, I am excited to move beyond text into a multimodal experience (Brabazon et al., 2020).

For both Debra and Margaret, storytelling and reflective writing practice are key components of how we practice critical autoethnography. As a method "concerned with culture and power, and it is also concerned with constructions and theorizations of cultural identities, intersectionality, and social inequalities" (Boylorn & Orbe, 2021, p. 1) story is well suited to examine the past, present, and imagine the future. While the requirements of the dissertation are serious business, there is no rule that says the creation of it must be a dreadful slog which it has honestly felt like for quite a long time. We feel done with the suffering that that can accompany dissertation work (Galdino & Martins, 2019). Most days I (Margaret) take the time to center myself bringing intentions of love and curiosity to what has evolved into an intellectual and spiritual experience (Vizcaíno, 2021). I seek joy as I imagine the dissertation as activism. Originally, the plan was for me to write about the adult health course where I applied theory to practice, but honestly, that feels secondary to exploring writing [and other modalities] as method for critically-reflective inquiry that supports self study of [teaching] practice (Kitchen, 2021), a pedagogy of hope (Freire, 1994; hooks, 2003), a regular practice of contemplative walks on a labyrinth, an existential reflection on the future of our planet, what that has to do with nurse practitioner education and why it makes the most sense to advance it through ePortfolio pedagogy (Brabazon et al., 2020; Hoven, 2019; Hoven et al., 2021). This aligns well with my research question that asks what work I have I been doing to respond to the TRCC (2015) calls to action in a meaningful way? This is the way. This is story I tell. What I am attempting [with the incredible support of my supervisor] is bigger than a population or clinically focused course in an online Canadian nurse practitioner program. It is about a fundamental shift toward conciliation, or right relationships

in online advanced nursing education as an essential first step toward reconciliation. There is boundless opportunity for self study, but this type of work is best done in groups. This primarily solo dissertation experience has taught me that. I'm feeling hungry for conversation. I want to learn what my activist colleagues are up to and how they might be working to advance both ePortfolio pedagogy and cultural safety in online spaces. I know there are people looking for this conversation, having this conversation. How are you responding to calls to action, the United Sustainable Development Goals or the United Declaration on the Rights of Indigenous Peoples as they pertain to your professional work in a meaningful way? Where are you on this journey?

The second paper uncovered in my search (Taylor, 2011) focused exclusively on doctoral students' use of video narratives as a tool for reflexive praxis and as such, has limited value as they may or may not have been used within the context of ePortfolio spaces. While there is mention of a workshop focused on ePortfolio in the program [that focuses on the topic of creating a digital identity], there is no mention of ePortfolio as the learning artifact of the dissertation. At this point, I moved on to a Google search with the search terms and five books came up. I bought two of them – the first is a manual about chairing a PhD committee as I hope to do that one day as well. It also helps me learn about the supervisor-supervisee relationship. The one being modeled for me by my supervisor is relational, trustworthy, and genuine. When better to reflect on the kind of values and attributes I aspire to should I ever experience the privilege and responsibility of chairing the work of a graduate student? I feel solidly supported by you, Debra – confident I can complete the work with intellectual depth in a way that we have not yet imagined. The second book discusses writing as a method of self study. "Why, Margaret...." I think to myself, "add some intersectional spiritual ecofeminism and the possibilities open themselves into the world" as I offer a silent prayer of thanks for the perfect timing of this book making its way into my scholarly vision seeing a place for it in my methodology section.

Where are we now?

One of my practical questions today is what is the implication or precedent set if I (Margaret) use an ePortfolio platform outside of the University system? I have worked to date in foliotek, but now I start to wonder if I want to oblige myself and my descendants to an annual subscription fee to ensure the portfolio remains open and accessible. Alternatively, can it be housed by the university? Another question: do I really want to start over in a new ePortfolio environment? Should students have to when they have found a compatible platform? Finally, should I also be developing a professional portfolio to take over as my resume?

And three final questions from Debra: how can a forward-looking online university incorporate multiple ePortfolio platforms into the learning environment for students – platforms that can be at the same time student-compatible while also hosted or linked within the university technical infrastructure? Secondly: how can universities better support graduate students in their pursuit of creative scholarly expression and processes within graduate "product" guidelines and regulations? Or should other systemic changes be made?

What do you think? What is your experience?

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Envisaging Alterations of Future University Business Models: Anticipative Measures to Precede Unintended Consequences

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1. The Universe of Discourse

The focus of this inquiry is to explore and analyze the potential alterations that future university business models may undergo in the context of open-flexible-distance learning (OFDL) perspectives (Tanhan, Boyle, Taş, Söğüt, Cashwell, Genc & Karatepe, 2023). The study covers identifying anticipative measures that can be taken into account to preclude unintended consequences from Globalization (<https://www.imf.org/external/np/exr/ib/2000/041200to.htm>), Revolution 4.0 (Schwab, 2016), Six Megatrends (Vielmetter & Sell, 2014), Society 5.0 (Rossi, 2018), and the unexpected turbulence caused and forced by the pandemic outbreak (Dhawan, 2020; Sembiring, 2022a).

The main aim is to investigate and understand the alterations that may occur in future university business models due to the five-force corollaries with a particular focus on the OFDL perspectives. Additionally, it aims to: (a) Explore the five-force corollaries (Globalization, Revolution 4.0, Six Megatrends, Society 5.0, and the COVID-19 outbreak) and their potential impact on future university business models, (b) Delve into the five-fundamental determinants (online learning model revolution, pedagogy evolution in online learning, online learning support services, online learning versus emergency remote teaching, and educational experience) influencing the OFDL perspectives, (c) Identify anticipative measures that can be adopted to avoid unintended corollaries and ensure the resilience and success of future the OFDL environments, and (d) Propose four new traits (new horizon, function, nature, and ethos) that can be integrated into future university business models to address the shifting educational experience viewed from a societal needs (Anderson & Dron, 2011; Belawati, 2019; McTee, 2010; Hodges, Moore, Lockee, Trust & Bond, 2020).

The aims previously stated were related to acute gaps surrounding this issue. Despite the increasing prominence of the OFDL and the significant impact of the five-force corollaries on educational institutions, there exists a gap in understanding how future university business models can adapt to these unpredictable fluctuations. While numerous studies may have individually explored aspects like online learning models, pedagogical approaches, and the effects of the sudden pandemic outbreak, limited research has holistically examined the alterations in future university business models from the OFDL outlooks. It then requires to bridge this gap by providing a comprehensive investigation into the evolving landscape of the OFDL and its implications with respect to the university's future business models.

Having considered the focus, aims, and gaps explained earlier, this inquiry will systematically and comprehensively answer the following four fundamental questions. They are: (a) How might the five-force corollaries (Globalization, Revolution 4.0, Six Megatrends, Society 5.0, and the pandemic outbreak) influence the business models of future universities, particularly in the realm of the OFDL milieu? (b) What are the five-fundamental determinants (online learning model revolution, pedagogy evolution in online learning, online learning support services, online learning versus emergency remote teaching, and educational experience) affecting

the evolution of the OFDL, and how they might contribute to alterations in future university business models? (c) What anticipative measures can be identified to mitigate unintended consequences and ensure the resilience and success of future OFDL environments in the face of the aforementioned corollaries and determinants? And (d) How can the proposed traits (new horizon, function, nature, and ethos) be integrated into future university business models to address the shifting educational experience viewed from a societal standpoint in shaping future university business models?

By cautiously addressing those four essential questions, this inquiry provides valuable insights into the alterations of future university business models. At the same time, it offers anticipative measures to navigate the challenges presented by the changing landscape of education and learning paradigms worldwide.

2. The Research Design

Methodically, the study applies a qualitative approach (Snyder, 2019; Whittemore & Knafl, 2005). This study then proposes a nine-syntax approach to reveal the answers and explore those previous questions and aims stated respectively. This nine-syntax is a combination of a systematic literature review (Atkinson & Cipriani, 2018; Khan, Kunz, Kleijnen & Antes, 2003) and a comprehensive literature review (Williams, 2018; Onwuegbuzie & Frels, 2015). The nine-syntax approach includes: (1) Identifying the research objectives and questions for the literature review, (2) Determining inclusion and exclusion criteria for selecting literature sources, (3) Conducting a comprehensive search of relevant sources, (4) Screening the retrieved articles based on the inclusion criteria, (5) Extracting and analyzing the relevant data from the selected articles, (6) Synthesizing and summarizing the findings from the literature, (7) Identifying potential gaps for further research, (8) Incorporating expert perspectives gathered through a number of discussion or consultation activities series, and (9) Integrating the findings from the literature review and expert insights to provide a more comprehensive overview.

3. Preferences, Provisional Findings, and Considerations

In this stage, we come to the following *four* imperative outlooks that should be expansively deliberated. Viewing the first outlook, on mapping the trend of post-pandemic higher education institution orientation, *the first discovery* indicates that future universities will continuously leap forward and reduce constraints in terms of physical, geographic, demographic, technological, disciplined, and identity attributes (Initial inspiration from https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/noindex/ey-future-of-higher-education-report.pdf).

The concept of future universities continuously leaping forward and reducing constraints in various dimensions is a compelling vision for the evolution of higher education. To provide a brief explanation and argument on the issues outlined in envisaging alterations of future university business models as anticipative measures to precede unintended consequences we can break down the key dimensions as follows.

On the physical constraints: Traditional universities have physical limitations in terms of campus space and facilities. In the future, universities are likely to embrace online and hybrid learning

models, reducing the need for extensive physical infrastructure. This can make education more accessible to students globally and lower costs associated with maintaining large campuses.

On the geographic constraints: Future universities can overcome geographical barriers by offering programs and courses that are not bound by location. This shift can lead to greater diversity in the student body, as students from different parts of the world can access education from institutions they might not have considered previously.

On the demographic constraints: Higher education has often been inaccessible to certain demographics due to factors like financial constraints and age. The future of universities could involve more flexible, lifelong learning models, catering to a broader range of students, including working professionals and non-traditional learners.

On the technological constraints: Embracing emerging technologies like artificial intelligence, augmented reality, virtual reality, and interactive online platforms can enhance the educational experience. This can lead to more personalized learning, interactivity, and engagement and conclusively improve the quality of education.

On the disciplinary constraints: Future universities may break down disciplinary silos, fostering interdisciplinary collaboration and innovation. This shift can lead to the development of holistic, well-rounded individuals better equipped to solve complex real-world problems.

On the identity constraints: Inclusivity and diversity are crucial for a vibrant learning environment. Future universities can actively work to eliminate identity-based constraints, ensuring that all individuals, regardless of their background, can access and thrive in higher education.

In brief, the transformation of future university business models is essential to address these constraints. Anticipative measures, as highlighted in the referenced paper, should be implemented to ensure that these changes result in positive outcomes rather than unintended consequences. This includes considerations for equitable access, quality of education, and the adaptability of institutions to evolving societal needs. The evolving landscape of higher education has the potential to empower individuals and societies by making learning more flexible, inclusive, and relevant (partly in line with <https://hbr.org/2020/09/the-pandemic-pushed-universities-online-the-change-was-long-overdue>).

As a result of the Industrial Revolution 4.0 and the global pandemic COVID-19, it is rational to find a *new* way of working in the university environment. It is no longer relevant to keep all the traditional and obsolete approaches. Productivity and relevance become a must. That is being able to do things that we were never able to do previously. This is the way the OFDL effectively works. However, proactive planning, careful execution, and regular monitoring and evaluation activities are essential to navigate these alterations successfully.

Observing the second outlook, on the nature of future universities, *the second detection* reveals that the universities might have functioned as schools extended, education outsourced, schools as learning hubs, and learn-as-you-go institutions. This is the new way to respond and harmonize between supply and demand in reality. Again, in this era, it is no longer relevant to offer one single program to solve any kind of problem.

The concept that universities function in various roles beyond traditional education aligns with the idea of evolving university business models to meet changing demands. Here's a brief explanation and arguments for each aspect as highlighted by OECD (2018) and OECD (2020).

Universities as Schools Extended: In this role, universities extend their reach into the broader community, offering educational resources and programs to a wider audience. By doing so, universities can fulfill their mission of knowledge dissemination and skill development beyond their immediate student body, contributing to lifelong learning and societal development.

Educational Outsourced: It refers to universities partnering with businesses, organizations, or other institutions to provide customized training and education for their specific needs. Therefore, collaboration between universities and industry can address skill gaps, enhance employability, and promote research and innovation, making education more relevant to workforce requirements.

Schools as Learning Hubs: This entails universities serving as central hubs where learners from various backgrounds access a mix of formal education, online resources, and experiential learning. It implies that learning hubs can create diverse, interdisciplinary environments that foster creativity and adaptability, preparing students for an evolving job market.

Learn-As-You-Go Institutions: This represents a shift towards on-demand, modular education, allowing learners to acquire skills and credentials at their own pace and as needed. In other words, such flexibility can make education more affordable, accessible, and aligned with individuals' career paths, reducing the burden of traditional degree programs.

The underlying premise in this case is that universities need to adapt to changing socioeconomic and technological landscapes. By assuming these roles, they can better align with the evolving needs of students, employers, and society. However, there are obvious potential challenges, including ensuring quality and maintaining academic rigor in these new models, balancing profit motives with educational objectives, and addressing issues of access and equity in the educational ecosystem.

In short, envisaging alterations of future university business models in accordance with creating anticipative measures to precede unintended consequences explores all these shifts in greater detail, providing insights into how universities can navigate these changes effectively.

Observing the third interpretation, on the foremost strategic measures so that universities continue to thrive amidst uncertainty and a vulnerable milieu to change, *the third detection* uncovers the nature of future universities might be referred to as the so-called entrepreneurial, research, resource, managing, and (natural) life universities. Starting from now on, there are several elective natures on how to effectively govern the university viewed from stakeholder's standpoints. The university should recognize both internal and external conditions. Having established a clear vision and mission, the university will be able to find a suitable niche after selecting one or a combination of the nature of the university.

The future of universities is likely to see significant changes in their business models. These changes can be categorized into five key aspects: entrepreneurial, research-oriented, resource-efficient, management-focused, and holistic, natural or life universities. Here's a brief explanation and argument for each of these aspects (Clark, 2001; Barnett, 1992).

Entrepreneurial Universities: Entrepreneurial universities will actively seek innovative ways to generate revenue and adapt to changing demands. They will foster a culture of entrepreneurship and technology transfer. This approach can reduce reliance on traditional funding sources, create stronger ties with industry, and promote economic growth through innovation.

Research-Oriented Universities: These universities will prioritize research excellence, emphasizing scientific discovery, technological advancements, and academic contributions. Investing in cutting-edge research can attract top talent, enhance the institution's reputation, and create opportunities for collaboration and funding from research grants and partnerships.

Resource-Efficient Universities: Resource efficiency involves optimizing operations, reducing waste, and enhancing cost-effectiveness through data-driven decision-making. Efficient resource management ensures financial sustainability, affordability, and a focus on education quality ultimately benefiting students and the institution.

Management-Focused Universities: These universities will place a strong emphasis on effective leadership, governance, and strategic planning to navigate complex challenges. Sound management can help universities adapt to evolving educational landscapes, achieve their goals, and maintain institutional stability.

Holistic or "Natural Life" Universities: Holistic universities will recognize the importance of well-being, sustainability, and community engagement in their mission. Fostering a healthy campus environment and a strong connection to the local community can attract students, faculty, and staff who value a balanced and sustainable lifestyle.

It is then appropriate to ensure the capability to envisage alterations and anticipative measures. To ensure the successful transition to these future university models and preempt unintended consequences, institutions should cautiously consider the following anticipative measures: (1) Strategic planning: Universities should develop long-term strategic plans that align with the chosen model, focusing on innovation, sustainability, and resource allocation, (2) Faculty and staff Development: Invest in professional development to equip faculty and staff with the skills and knowledge needed for these new models, (3) Financial diversification: Explore multiple revenue streams, such as online courses, partnerships with industry, and philanthropic contributions, (4) Data-driven decision-making: Implement data analytics to monitor performance and adapt quickly to changing circumstances, (5) Community engagement: Foster strong connections with local communities and industries to create mutually beneficial partnerships, and (6) Environmental sustainability: Commit to environmentally friendly practices and sustainable campus operations to support the "natural" or "life" university model.

Momentarily, the future of universities will demand a multifaceted approach, combining entrepreneurship, research excellence, resource efficiency, effective management, and a holistic perspective. By adopting these models and implementing anticipative measures, universities can proactively address challenges and stay relevant in an ever-changing educational landscape.

The fourth recognition, as a corollary of the three outlooks previously elaborated, this study identifies three fundamental attitudes, as *the fourth exposure*, to successfully entering the future business models of universities. They are cultural, functional, and digital transformations simultaneously. Once the university can recognize itself, implementing a new way of working and a new way of thinking becomes critically pertinent. Having considered the first three findings, that is shifting from "the old" to "the new" orientation is therefore conceptually, organizationally, and practically needed, and significant.

The essence of facing and adapting to turbulence is a transformation. Effective tips for transformation, towards a better calling, must be the only focus of university communities.

Especially when realizing transformations that will be carried out related to cultural, functional, and digital transformations concurrently with the ultimate goals toward the new business model with the new structure and orientation.

Envisioning alterations to future university business models in the context of cultural, functional, and digital transformations is essential to prepare for the evolving landscape of higher education. Here are the comprehensive explanations and arguments for these three critical dimensions and anticipative measures to mitigate unintended consequences (Sembiring, 2022b).

Cultural Transformation: Cultural transformation in universities involves a shift in values, beliefs, and behaviors within the academic community. It is characterized by openness to change, diversity, inclusivity, and a commitment to innovation. It is therefore critical to consider: (1) Diversity and inclusivity, i.e., embracing cultural diversity and fostering an inclusive environment can attract a broader range of students and faculty, promoting a rich exchange of ideas and experiences and (2) Innovation and adaptation, i.e., a culture of innovation encourages faculty to explore new teaching methods, research avenues, and interdisciplinary collaborations, ensuring the university remains relevant and responsive to societal needs. It is therefore relatable to: (1) Develop and implement diversity and inclusion programs, (2) Create spaces for open dialogue and idea sharing, and (3) Encourage faculty to explore innovative pedagogical approaches as anticipative measures.

Functional Transformation: Functional transformation entails restructuring administrative processes, academic programs, and support services to enhance efficiency, effectiveness, and alignment with the university's mission and goals. It is then relevant to bear in mind that: (1) Operational efficiency, i.e., streamlining administrative processes and optimizing resource allocation can free up funds for academic initiatives, research, and student support and (2) Program relevance, i.e., regular evaluating and updating academic programs ensures they meet the needs of a changing job market and students' evolving interests. It is therefore relatable to: (1) Conduct regular reviews of administrative processes for efficiency gains, (2) Employ data analytics for informed decision-making, and (3) Establish a committee for program evaluation and renewal as anticipative measures.

Digital Transformation: Digital transformation involves adopting and integrating technology into all aspects of university operations, from teaching and learning to administrative tasks and research. It is then significant to take into consideration: (1) Enhanced learning experiences, i.e., leveraging digital tools can create engaging and personalized learning experiences for students, including online courses, virtual labs, and interactive resources and (2) Data-driven decision-making: Universities can harness the power of data analytics to optimize resource allocation, student support, and academic planning. Consequently, it is applicable to: (1) Invest in technology infrastructure and training for faculty and staff, (2) Develop online and hybrid learning options, and (3) Implement cybersecurity measures to protect sensitive data.

4. Remarks and Proposed Future Direction

Having implemented the transformation, it needs to evaluate the state of transformation progressions frequently to implement adjustments whenever it is necessary. To do the planning and implementation of the transformation strategy effectively it is relevant to keep in mind the

“opposite” possibility. This is important as anticipation, to help the organization be successfully transformed culturally, functionally, and digitally.

A quote says: “One can choose to go back toward safety or move forward toward growth. We have a free choice. This is about transformation. Every success story is a tale of constant adaption, revision, and change. If we don’t change, we don’t grow! To change and grow, we need transformation. Again, that is cultural, functional, and digital transformation simultaneously.

Considering the steps previously elaborated, it is then believed that the university will be able to follow and accommodate any change. It is also believed that by systematically following the steps, cultural, functional, and digital transformation will be gradually achieved. This implies that the university will be well-equipped to re-direct the university to be more agile. The universities will be able to re-orient their mission to continuously leap forward, and again, to reduce constraints in terms of physical, geographical, demographical, technological, disciplined, and identity features.

The transformations might lead the universities have function as schools extended, education outsourced, schools as learning hubs, and learns-as-you-go institutions as the requirements of future university characteristics. Moreover, the transformation will open opportunities to adapt to the nature of future university traits. The universities might function and be referred to as the so-called entrepreneurial, research, resource, managing, and (natural) life universities. These elaborative explanations are obviously comparable to the attributes of a future-ready University (<https://www.theedadvocate.org/what-are-the-attributes-of-a-future-ready-university/>).

The place of work becomes more digital. Today’s workplace is digital-first. Employees spend most of their time using digital technology (<https://www.pwc.com/sg/en/publications/assets/digital-first-for-growth.pdf>). Every day that passes sees the introduction of new tools and digital workflows. Soon, the software will likely continue to proliferate and fundamentally reshape the modern workplace in every sector (Baptista, Stein, Klein, Watson-Manheim & Lee, 2020).

Emerging technologies transform the workplace in line with 21st-Century skills needs (Geisinger, 2016; Stauffer, 2022). Technologies such as the Internet of Things, cloud technology, augmented reality, virtual reality, mixed reality, big data, and 3D printing for example will certainly reshape the workplace. Shortly, all these technologies will become as integral to the workplace as the internet has.

Further research and close collaboration amongst stakeholders are essential to continue mitigating the potential unintended consequences. Auxiliary responses are needed especially on how the five-force corollaries influence the business models of future universities, how the five fundamental determinants affect the evolution of the OFDL, and how the proposed traits can be integrated into future university business models to successfully address the shifting students educational experience viewed from a societal standpoint at large.

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Investigating Faculty Perceptions of Creating Accessible Online Learning with Ally

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Introduction

Different types of accessibility checkers, such as Blackboard Ally, have been created to address these issues like these by identifying inaccessible content. Blackboard Ally is increasingly being used by several institutions because it not only checks for inaccessible content, but it also provides students content in multiple formats. In terms of its accessibility checking features, Ally basically scans course content in a learning management system and checks for common accessibility issues, provides an accessibility gauge for individual content as well as a course accessibility score based on all the course materials, and offers step-by-step guidance on how to improve the accessibility of the content (Blackboard Ally, 2022). Finally, Ally provides an institution-wide accessibility report to assist institution accessibility leads with data to ensure course content meets the needs of all learners. As helpful as Ally can be, it is not a panacea. Faculty, instructional designers, and administrators all must use Ally on a regular basis to improve the accessibility of online courses. Questions remain, though, how faculty in particular use Ally and what they think of it. Given this, we set out to investigate in this exploratory study how faculty use Ally, their perceptions of it, and ultimately who do they think is responsible for accessible content and courses. In the following paper, we will present the results of our inquiry and the implications for research and practice.

Literature Review

For the last two decades enrollments in online learning have grown. However, those enrollments increased substantially since 2019, largely due to COVID-19 pandemic (Smalley, 2021). Moreover, the number of students who come from marginalized populations taking online courses also significantly increased over the last few years (Kim & Fienup, 2021; NCES, 2019). Students with disabilities who require accommodations such as accessible course materials are part of this group identified as marginalized. As far back as 2011 the United States Department of Education noted the number of post-secondary students with reported disabilities was 11% or roughly two million students and was likely to increase (Fenlon et al., 2016). Jaeger (2012) warned this group specifically will become further marginalized without ensuring design and implementation take meaningful steps to be inclusive. While arguments have been made suggesting online courses are generally poor in comparison to those in-person (Altindag et al., 2021), those with disabilities reported increased preference of such courses especially in the wake of the COVID-19 pandemic (Mullaney, 2021).

Inaccessible Content

Students with a disability should have an equal opportunity to participate fully in online courses (Massengale & Vasquez, 2016; WebAIM, 2022). One of the number one problems students with a disability face with online learning is inaccessible content. Some common examples of inaccessible content include learning management system tools (e.g., HTML pages) and materials developed by instructors or others (e.g., textbook publishers) including Word documents, PDFs, PowerPoints, and audio and video files (Behling, 2017). In fact, in one study, Kent (2016) researched students at 15 different universities with many different disabilities. Some of the common issues he found included selective release of materials, lack of variable assessment methods, excessive content quantity and readability, and inclusion of third-party products with issues among other problems. Then in a more recent study of 500 institutions, Moody (2020) found 50% of PDFs used in courses contained accessibility problems. In designing an online course which already poses hurdles, including inaccessible content only exacerbates issues faced by students with disabilities.

Accessibility Tools for Course Design and Use

It is important for anyone involved in online course design to know and understand the accessibility tools on the market that they can use to help students with disabilities (Baldwin & Ching, 2021). Several accessibility tools have been developed that instructional designers and faculty can use to improve the accessibility of online courses. These include accessible checkers in common products such as the Microsoft Suite (e.g., Word, PowerPoint) that enable someone to identify accessibility errors and to fix them (Microsoft, 2022). There is even an addon for Google Docs and Slides, Grackle, that can identify accessibility issues. Other tools are native to learning management systems such as the Accessibility Checker option in Canvas (Instructure, 2022) or Brightspace (Dahl, 2022). There are also other third-party products which integrate into an LMS such as UDOIT for Canvas or Blackboard Ally (works in various learning management systems).

In each case, tools like these can ensure accessible issues in content and materials are 'headed off at the pass' before students access the course or are identified through existing means of disclosure or self-identification (Roberts et al., 2011). Moreover, waiting until self-identification in all cases results in multi-stage design which is less proactive, can increase costs, and lead to less efficient or ubiquitous design following principles of Universal Design for Learning (UDL) (CANnect, 2010). Further, simply notifying a faculty member of one or more students in their course with a disability does not satisfactorily help students succeed or more easily overcome barriers with course content (Massengale & Vasquez, 2016).

Responsibility for Accessibility

The design of courses with accessibility in mind prevents issues during implementation and doing so creates a mindset where accessibility is less a burdensome co-requisite task and more a productive endeavor (Baldwin & Ching, 2021). While this sounds ideal, it is unclear who may be responsible for accessibility at institutions of higher education. Lowenthal and Lomellini (2022)

found many institutions do not have a clear policy or stance on who bears this responsibility. Similarly, Guilbaud et al. (2021) determined faculty viewed the process of accessible design very time consuming and believed it was the responsibility of another department such as disability services. Regardless of where responsibility lies, those institutions with a collaborative mindset where several departments and personnel work together to ensure courses are accessible are far better equipped than those who deflect internally to other entities (Behling, 2017; Linder et al., 2015). Effectively, the use of this approach ensures accessibility can be - and will remain - a top priority at the institutional planning level (Kent, 2015).

Challenges

The responsibility for accessibility at an institution of higher education poses one specific challenge to ensuring courses are inclusive and well-designed for accessibility purposes. However, other challenges exist. Several scholars point to the resources needed to make courses and materials accessible including time and cost as constraints especially from the faculty end; creating inaccessible course content consumes far less time and often under duress from deadlines to have a course ready to deliver, this route is taken. (Asgari et al., 2022; Linder et al., 2015; Fenlon et al., 2016; Lomellini, 2022; Lowenthal & Lomellini, 2021). In addition, creating accessible PDFs is made easier by having access to Adobe Acrobat Pro. These costly tools may not be available to faculty or faculty may not have training needed to successfully convert PDFs using Adobe Acrobat Pro.

What are faculty perceptions and experiences with the Blackboard Ally accessibility tool in their online courses?

Why do faculty use accessibility tools such as Blackboard Ally?

Who do faculty think is responsible for accessibility on their respective campuses?

Method

We designed a survey in Qualtrics containing questions to address faculty views and experiences of using the Blackboard Ally tool, their rationale for its use, and who they felt was ultimately responsible for accessibility on their respective campus. The instrument contained both quantitative Likert-scale and qualitative open-ended questions permitting respondents to share further opinions and information related to each question. Institutional approval was gained from the lead author's institution to conduct the research project.

This study examines faculty perceptions and experiences with the tool, their main accessibility goals, and views on ultimate responsibility for accessibility at the institution. Results can help instructional designers, faculty, and administrators improve course accessibility at scale and further help to create a culture of accessible course design on their campuses.

Results

As previously mentioned, we were interested in online educators' perceptions of Ally, how they use it, and ultimately who do they think is responsible for accessible content and course. We will report the results of our inquiry focused on these three areas below.

Awareness and Knowledge of Ally

We first wanted to better understand participants awareness and knowledge of what Ally was and how faculty and students use it. As we hoped, given our focus on Ally in this study, the majority of participants reported that they know what Ally is ($M=4.62$) and that they know their institution uses Ally ($M=4.58$). The majority of participants also reported that they know how to use Ally ($M=4.32$), but fewer reported knowing how students might use Ally in online courses ($M=3.53$).

Once we had an idea of their awareness of Ally, we then asked questions about their perceptions and use of Ally. First off, 66% reported that they find Ally easy to use ($M=3.78$) and they are confident in their use of it ($M=3.77$). This could be due in part to prior training that they took part in as about 66% reported that they had attended training on Ally ($M=3.62$) yet 61% reported that they could use more training on using it. Most participants still reported that they find Ally easy to use ($M=3.78$) and that they use Ally at least once a semester ($M=3.92$). But participants were a little more divided on the time it takes to use Ally; 32% of participants reported that they either agree or strongly agree and 19.5% reporting a neutral opinion of neither agree nor disagreeing on whether it takes a lot of time to use Ally. However, the majority still reported that they thought Ally was worth the time it takes to use ($M=4.07$), with 76% of participants reporting that they agree or strongly agree that Ally improves the student learning experience ($M=4.13$) (see Table 3).

We then were interested in finding out more about how they use Ally and if they think their peers use it. While the majority (80%) of participants reported that they check the accessibility of materials before adding them to their course, almost half (47%) reported that they also wait to use Ally to check the accessibility of content for their course. And 39% reported that they are only satisfied when the Ally gauge is green, indicating that the content is 100% accessible.

Responsibility for Accessible Online Courses

The majority of respondents felt faculty members were the key responsible party followed by a third who felt a combination of faculty bore the task of accessibility. Less than fifteen percent felt other entities bore sole responsibility which included a distance learning center, disability resource center, or IT staff body. The suggestion that faculty were the key drivers of accessible courses supplanted by cooperation from partners suggests an institutional-wide buy-in is a strategic direction to take in a culture of accessibility.

Themes from the remaining open-ended items on accessibility responsibilities paint a similar picture. No respondent to such items indicated a sole body was responsible for accessibility; several noted faculty were the majority driver of accessibility but cautioned against faculty

being solely in charge. For example, responses included, “This needs to be a faculty-driven initiative” and “Primarily faculty should be ensuring accessibility of their course, but staff are available to assist and answer questions.” Most noted a joint effort was necessary from a campus perspective. For example:

In my college (self-support), there is joint responsibility between the distance education instructional designers/support staff and the instructor. In the other colleges (state-support), the faculty are responsible, and they can seek out help from various offices on campus. This latter method is fragmented and inefficient. I think that there should be a more organized system for getting course materials into fully-accessible condition.

Other open-ended responses stated, “It’s a team effort between the faculty and staff” and “I think as a campus community we need to adopt an accessibility mindset rather than one or two champions.”

Discussion and Implications

First, respondents viewed Blackboard Ally as a tool generally easy-to-use which has extremely student-centered benefits through course accessibility, ensuring content and materials are accessible and available in alternative formats, and creating a culture for all students and not just those who require specific accommodations. This finding echoes previous assumptions noting student benefits through intentionality in workflow and design as well as ensuring compliance (Baldwin & Ching, 2021; Burgstahler, 2012). Next, while the tool has many benefits, there are certainly improvements to be made for integration into various learning management systems, user experience with the product, and general workflows due to time investment. We list this finding with caution as while these shortcomings lead to an increase in time invested, respondents did feel that time was ‘worth it’ for the success of all students echoing the need to do this work earlier rather than later (Almufarren & Arshad, 2021; McKeown & McKeown, 2019). Third, the data indicate those involved in course design and execution value the accessible design of materials before placement into a course shell or site rather than after. In doing so, and not letting Blackboard Ally then scan materials for issues, workflows are considerate of an accessibility culture from the ground-up rather than playing a form of catch up for detected issues.

Similarly, our fourth finding further supports a ground-up accessibility culture (Baldwin & Ching, 2021; Behling, 2017; Linder et al., 2015) in that respondents were more focused on ensuring overall course accessibility versus an idiomatic endeavor such as trying to obtain a higher numerical Blackboard Ally score provided by the tool in a course shell or site. Our initial assumption was that focus would remain on earning a high score versus the groundwork necessary to ensure accessible materials. Finally, a majority of those invested in the accessibility of courses believe similar to other studies (Kent, 2015; Madaus et al., 2021) faculty are the key drivers of this effort with collective and comprehensive support from partners such as distance/eLearning staff or other entities. Further underpinning of a culture of accessibility comes through collaboration rather than one person or entity trying to ‘do it all.’

Third, as findings suggest ground-up workflows, an institution must ensure its policies, procedures, and processes ensure accessibility permeates all facets of course design and creation. In this

manner, a reactive mindset can be avoided with a proactive approach becoming the norm. Such a take-charge frame of mind can also ensure Blackboard Ally remains a tool for support rather than a solution to problems. Finally, in consideration of workflow and policy, institutions should capture and analyze time spent on accessibility to find ways to promote time spent or even time reductions. Such an effort will ensure accessibility and its requirements continue to prove fruitful for faculty and staff, learners, and the campus community. Data will also be available to ensure compliance with federal and other regulations for learners with disabilities which can be useful during an audit, accreditation review, or complaint investigation and resolution.

The Blackboard Ally tool does provide faculty and staff developers with the knowledge to improve course accessibility. However, more research is needed to better understand the work then undertaken to make course materials accessible for learners before entry into the course shell or site. If the report from Blackboard Ally notes inaccessible PDFs, research could examine the work done to make those files accessible and then the resulting score for comparison purposes. Knowledge of accessible design could then be examined to determine implications for training of course designers (both faculty and staff) to better understand their needs for learning and growth.

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Content Validation of the National Consultation on Micro-Credentials among Representatives of Costa Rica's University Higher Education System

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Introduction

We intend to carry out an expert validation process of the content and operationalisation of a preliminary instrument developed for conducting a national consultation among key stakeholders within the Costa Rican State University Higher Education System (SESUE, by its acronym in Spanish). This consultation is aimed at determining, among SESUE's member institutions, (a) the state of knowledge, perceptions, and expectations regarding micro-credentials; (b) the current provision of certificates for short learning experiences and its installed capacity for it; (c) the degree of recognition received by these proofs of learning; and (d) the existence of future plans in this regard. The study will build upon the research progress achieved and the lessons learnt by the European Union through projects such as MicroHe (Camilleri et al., 2020) and MICROBOL (Lantero et al., 2021).

Method Design

This study will adopt a mixed-methods approach. It will consist in the administration of an online questionnaire including close-ended and open-ended questions to a panel of international and national experts for validating the content of a preliminary instrument developed to determine the state of play of micro-credentials in Costa Rica.

Participants

Seven international experts on micro-credentials and seven national experts on university policy will be selected to participate in the content validation of the instrument for the national consultation.

Instruments

National Consultation Instrument

To determine the state of play of micro-credentials in Costa Rica, we designed a structured questionnaire (close-ended items) accompanied by some open-ended questions to delve into particular issues requiring further clarification. As indicated above, the instrument was built upon the questionnaires already developed by the MicroHe (Camilleri et al., 2020) and MICROBOL

(Lantero et al., 2021) projects, which were reviewed, adjusted, and adapted to our national and institutional reality. According to the purpose of the study, the instrument comprised the following dimensions: (a) knowledge and understanding of micro-credentials, (b) perceptions and expectations about micro-credentials, (c) current provision of certificates for short learning experiences, (d) installed capacity to provide and certify short learning experiences, (e) recognition of certificates for short learning experiences, and (f) future plans on micro-credentials.

Content Validation Questionnaire

To validate the content of the instrument for the national consultation, we developed an additional questionnaire consisting of four variables. The first one was a close-ended question aimed at assessing the relevance of each item in the instrument on a 3-point scale (from 1 = low to 3 = high). The other three variables were open-ended questions concerning the wording of the items, further comments about them, and recommendations for additional items.

Procedure

A link to complete the validation questionnaire online will be sent to the selected participants for the study. Upon data collection and analysis, corrections will be applied to the instrument for a first revised version. This version in turn will be subject to a response process validation through cognitive interviewing in the next stage of the project. The results of the cognitive will then be taken into account, and a final version of the instrument will be produced.

Data Analysis

Item Relevance Analysis

The relevance of individual items in the instrument will be calculated using the item-level content validity index (I-CVI) suggested by Polit et al. (2007). The interrater agreement for the whole instrument will be computed through the intraclass correlation coefficient (ICC) based on a single-measurement, absolute-agreement, two-way random effects model (Koo & Li, 2016).

Open-Ended Question Analysis

Questions referring to the wording of items, feedback on them, and recommendations for new items will be coded into categories and discussed within the research group.

Results and Discussion

After the validation of the instrument by a group of experts at both the national and the international levels, our subsequent step will involve the administration of the instrument to key stakeholders within the University Higher Education System. Our objective is to obtain responses from university authorities, sector professionals, administrative personnel, and other members of the five public universities in Costa Rica. Additionally, we will gather insights from

other institutions related to public education, such as the National Learning Institute, as well as from employers, such as the Chambers of Commerce and private companies.

The analysis of the results obtained through this study aims to recognize the importance of understanding how prominent actors within the higher education environment perceive, adopt, and plan for micro-credentials. In this sense, our research will enrich the body of knowledge surrounding micro-credentials and their integration into traditional higher education systems.

These outcomes carry potential significant implications for the formulation of educational policies, curriculum design, and strategic planning both within the Costa Rican University Higher Education System and in the broader realm of higher education. Furthermore, our study lays the groundwork for future comparative analyses with international counterparts, thus contributing to the global discussion on micro-credentials.

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Life-Long Learning Through A Unique Community-Based Open Education In Nigeria

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1. Introduction

A novel, cutting-edge and ground-breaking brand of open flexible and distance learning (OFDL) which provides extensive massification of access to education through an informal setting has been born in Nigeria. It is fresh, daring, forward-looking, forward-thinking, groundbreaking and original. It is a community-based bottom-up approach to open education provides open access, open learning and indeed open scholarship to ensure that no one is left behind in the race to educate everybody living on this planet.

Its ground breaking, cutting-edge, and daring characteristics are grounded in four areas: it integrates many facets of human endeavours which includes alternative dispute resolution, human rights advocacy and activism, investigative broadcast journalism, humanitarianism and philanthropy. All these have fortuitously now met with open flexible and distance learning (especially lifelong learning) which the Brekete family did not initially factor in or had full awareness of. As would be explained later in this paper, it was the National Open University of Nigeria (NOUN) that brought this to the attention of the organisation through a formal visit to the headquarters of Brekete family. It is also daring because the Brekete family has stepped on many toes, including the big-wigs or the so-called very very important personalities (VVIP), and indeed the government of Nigeria which has tried to muzzle the Ordinary President and his Organisations through some of the security-related parastatals of government.

2. Challenges of Mainstreaming LLL and the new genre of OFDL

1. Lack or limited access and reach

According to a recent publication of UNESCO, **UNESCO's Fifth Global Report on Adult Learning and Education (GRALE 5), the main challenge for adult learning and education across the globe is to reach those who need it most. The extension of this is that life long learning as a major part of adult learning and education has assumed a larger-than-life landscape especially when issues of sustainability are yoked with it.**

2. Distance of those to benefit.

In OFDL, the issue of distance is multi-faceted. Distance may not really be physical. It could include infrastructure, issues with curriculum, lack of effective facilitation.

3. Many stakeholders and priority groups disenfranchised

The planning and implementation of LLL, has not fully addressed the issues of many first line stakeholders such as the disadvantaged and vulnerable groups which include indigenous learners, rural populations, migrants, older citizens, people with disabilities

or prisoners whose deprivation or disenfranchisement of access to learning opportunities is seen as normal.

4. Neglect of contemporary issues

There are contemporary issues such as climate change that have not yet been sufficiently taken into account. The potential of citizenship education, which is pivotal to LLL is yet to be fully galvanised as commitment to advancing the right to lifelong learning.

5. Lack of, or under, funding

As mentioned by UNESCO, 'while the importance of lifelong learning is increasingly being recognized, it suffers from harmful underinvestment'. It says that 'nearly half of all countries invest only 2% or less of their overall education budgets in this field – even though, as UNESCO firmly believes, it is the best possible public investment for the future'.

6. Demographic Issues

The world is growing at an alarming rate, especially in the continent of Africa with a current population of 1,471,883,519 as of Tuesday, October 31, 2023, going by the latest United Nations estimates. Africa population is equivalent to 17.89% of the total world population of 8,045,311,447. The projection is that by 2050 the population of the African continent (considering the statistics of 4.2 live births per woman as at today, 2023) will be about 2,485,135,539. This will double the current rate while the world population will rise to 9,709,491,761. Nigeria, with a current population of 222 million and life expectancy 53.87 will balloon to about 377million in 2050.

3. The Story of the Brekete Family

This is the popular name known worldwide for the Human Rights Radio and Television station in Abuja transmitting on 101.1FM TSTV Channel 110 & 113 Badar Satellite Free to View Channel 105. The popular name of this Radio & TV station easily identified by the masses is Brekete Family. The Brekete Family is an award-winning Reality Radio and Television programmes focused on human rights featuring real events and issues bothering on success motivation, human rights, advocacy, investigative journalism and contemporary societal issues. All you need to do in Nigeria is mention the name Brekete and everyone knows who and what you are referring to.

The organisation was founded about 20 years ago by Ahmed Isah popularly titled as Ordinary President. It started as a social construction campaign advanced through independent Radio programme's production in Kaduna known as Oga Driver.

It got its name through its work for humanity drawn from the inspiration of 'strength of numbers' (BREKETE in Hausa language) and potency of reverence for shared relationship (FAMILY) built on love and unity of purpose. The Founder considers these core elements as unbreakable and supreme in human endeavors. Inspired by the idea that no challenge within the realms of humans is insurmountable by massive number of persons working together as one (family spirit) with love, sincere heart and unity of purpose.

3.1. The Modus Operandi of Brekete Family Programme

As at the last count, well over 15 million combined audience (radio, TV, social media) watch and follow the programme daily.

On the average, over 100 cases are received daily by way of physical presence of the complaints and an average of 2,400 cases daily through online submissions (email, WhatsApp, website forms, phone calls, SMS, and Brekete Family app).

The Alternative Dispute Resolution (ADR) is employed to solving issues brought to it by the general public. The cases include, family-splitting contentions, lost relationships, redress for denial of rights of poor people by persons in authority with impunity, restoration of lost hope, age-long social and administrative injustices. Between 50 and 70 cases are heard or processed daily whereas between 15 and 20 are resolved on the average. This is mostly influenced by the complexities of the cases, investigation needs, and particular requirements for bringing the parties to the mediation table.

3.2. Support, Partnership and Collaboration

The Brekete family enjoys tremendous public goodwill with support, partnership and collaboration from many organisations including, McArthur Foundation and Open Society Initiative of West Africa (OSIWA). With a staff strength of 75 (37 female, 38 male), the organisation works round the clock to bring smiles to the faces of all those who seek alternative dispute resolution (ADR) route to solving their multi-dimensional issues. While the organisations could do with more funding support from public spirited individuals and organisations world-wide, the limited revenue generated from the initiator's professional services, in-stream adverts on media content, and adverts in the radio and TV station are plunged back to support the work, and the ever-growing demands for charity.

4. The Role of Life Long Learning and the Brekete Community- based Open Education

Various definitions abound to explain what lifelong learning means. Whereas there as many definitions as the numbers of scholars and practitioners in the area, a few actually hit at the core of the meaning and practice. A number of these definitions reviewed for the purpose of this paper are:

"Lifelong learning has been described as a process that includes people learning in different contexts. These environments do not only include schools but also homes, workplaces, and even locations where people pursue leisure activities. However, while the learning process can be applied to learners of all ages, there is a focus on adults who are returning to organized learning" (O'Grady 2013)

5. The Interphase with the National Open University of Nigeria (NOUN)

While engaging in ADR, Brekete Family has opened the flood gate for everyone who cares to listen or watch the programmes to a genre of open education which is community based through its daily reality show. Without course materials and resources, without facilitators, without any limitations whatsoever, Brekete Family through its programmes provides unfettered access to non-formal education to millions of Nigerians and other nationals, to study in the global laboratory of dispute resolutions. Many have testified to the huge success and efficacy of the Brekete pedagogy, flexibility and removal of barriers to learning.

The National Open University of Nigeria (NOUN) is studying this distinctive specie of open education. NOUN was established by the Federal government of Nigeria in 2001, began academic activities in 2003 with 34,000 students, has grown to be the largest open university in West Africa with over 700,000 learners and hopes to hit 1 million in a couple of years. The university is committing its resources through learners' participation at the Master and doctoral degree levels to understudy the Brekete Family's community-based mass education (OFDL) heuristic. Although this partnership is still at its infancy, it has shown great potential and exceptional impact to the open education ecosystem through lifelong learning and significant contributions to the achievement of some of the Sustainable Development Goals (SDG).

As part of the programme celebrating the 20th year of the establishment of the Regional Training and Research Institute for Distance and Open Learning (RETRIDOL), a visit was undertaken to the headquarters of the Brekete Family to observe and partake in its daily programme. The visit which occurred on Saturday, 6th August, 2023 in Abuja had about 20 staff and learners, and two international visitors (Professor Carlos Alberto Pereira De Oliveira Cao from Brazil and Professor Som Naidu from Australia) in the team. What we took away from the visit was a professional eye opener and we came out resolved to work closely with the Brekete family.

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The Efficacy of E-ticketing as an integral Part of the Learner Support System at the National Open University of Nigeria

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1. Introduction

The National Open University of Nigeria (NOUN) established in 2001 and commenced academic activities in 2003 by the Federal government of Nigeria with an initial learner population of about 34 000 has now grown to over 700,000 learners dispersed throughout the length and breadth of Nigeria. The open university was established with the following vision, mission and objectives:

2. Learner Support Services in ODL

Learner support is central and absolutely essential in the provision of open and distance learning to learners who are normally separated by some form of distance from the institution. It focuses on what the teacher or instructor can or should do to help learners beyond the formal delivery of content, or skills development. Learner support covers a wide range of functions. The purpose of the Learning Support personnel is to identify, assess, support, monitor and evaluate learners' specific learning needs, in collaboration with other members of the university community involved with learners, recognising and valuing the diversity in the institution's learner population. Learner Support Services consists of a cluster of facilities and activities that are provided to make the learning process easier, efficient, and provides practical solutions to the inquiries of the learner in real time. NOUN opened a platform to provide such solutions through the VICC which began operations at a time when emerging and versatile technologies had not come on stream. This presented some issues of not being able to cope with or efficiently meet the needs of the learners at that time.

Learner Support Services at the ODL provision is synonymous with Customer Services in industry. The e-ticketing system of NOUN virtually mirrors the Microsoft Helpdesk 365 ticketing system. According to Anania (2023) 'Customer service is the support you offer your customers from the moment they first contact your business to the months and years afterward. Providing good customer service means being a reliable partner to your customers—it goes beyond helping them troubleshoot, use, and make informed decisions about your product'.

3. NOUN Information and Call Centre (NICC)

With the constantly increasing number of learners, the university needed a robust, more efficient and effective system of satisfactorily addressing the queries that bombard its system daily. The university therefore decided to install an electronic-based e-ticketing system now

known as NOUN Information and Call Centre (NICC) as a unit in the Directorate of Learner Support Services. The primary responsibility of the unit is to attend to the complaints/enquiries from learners, staff and the public. Its electronic operation is being overseen by the university's Management Information System (MIS).

3.1. Setting up e-ticketing @ NOUN

The world is constantly changing and the electronic system now dominates most, if not all operations. For examples we now have e-government, e-commerce, e-business, among others. In NOUN, for instance, we have e-examination and, of course, e-ticketing.

The e-ticketing platform is an important learner support system to address queries from NOUN's learners on any issue that relates to the essence of their learnership. This is aimed at enhancing the level of satisfaction of NOUN's learners in its service delivery thereby giving them better experience as NOUN learners.

3.2. Functions of the NICC Unit

The followings are some of the functions of the Unit:

- 3.2.1 E-Ticketing. This platform was created for NOUN students to send in their complaints/enquiries through support.nou.edu.ng
- 3.2.2 Telephone Calls. Enquiries from the public are received through the following designated numbers: 08079917938; 09082907092; 09056463036; 08038514090
- 3.2.3 Email Enquiries: the unit receives enquiries from the public through the centralinfo@noun.edu.ng
- 3.2.4 Face-to-Face Interaction. This is done as the learners and prospective learners come physically to make their complaints /enquiries.

3.3. The main categories of e-ticketing platform include: Student account

- Academic Registry
- Learners industrial Work Experience
- Faculty/Departments
- DICT,
- Student portal issues,
- Postgraduates; and
- eLearn portal.

4. Operational Structure of NOUN NICC

As mentioned earlier, NOUN Information and Call Centre (NICC) was until recently known as Visitors' Information and Call Centre (VICC). It has become a unit in the Directorate of Learner Support Services. The primary responsibility of the unit is to attend to the complaints/enquiries from learners and non-learners.

4.2. Agents

NICC e-ticketing focuses on students' issues. Learners' complaints/enquiries referred to as 'tickets' are forwarded to NICC staff also referred to as 'agents'. The Agents are divided into the following categories (Sub Units) to cover the various sections of the university that relate directly with learners:

4.3 Escalation Officers

The tickets are treated by the Agents, however, tickets that require further information are referred to the Escalation Officers who are not staff of NICC but staff of where the learners need help. The Escalation Officers, eight in number, are therefore staff of Academic Registry, DEA, Bursary, SPGS, SIWES, LCMS, ICT and MIS. They are located in their various offices.

4.4 Faculty Officers

Similarly, tickets for the various faculties are forwarded to the Faculty Officers who have been assigned to provide the needed information needed from their faculties to resolve learners' complaints. They are to revert to NICC within a specified time.

4.5 Monthly Data Subvention for Staff

Currently, the Agents, Escalation Officers and the Technical Administrator from MIS receive monthly Mobile telephone Data Subvention of N10,000 (Ten Thousand Naira) each.

5. Recommendations

A training workshop on Communication Skills and how to respond to learners' Complaints/enquiries for the staff of NICC.

In addition to Communication Skills, the following skills critical to e-ticketing should be taught to staff to enhance the success of e-ticketing in the university.

- Empathy. Empathy is the ability to understand another person's emotions and perspective.
- Problem solving. Being able to solve problems is key to e-ticketing.
- Active listening.

- Technical knowledge.
- Patience.
- Tenacity.
- Adaptability.

Proof reading of TMA questions and ensuring that correct answers are in the right columns.

There should be a harmonisation of the flow of information between the Headquarters and the Study Centres to the learners.

Staff of the NICC, MIS and Faculties who deal with e-ticketing should learn about the capabilities and limitations of ChatGPT for customer service.

It would be in the interest of NOUN and its learners to investigate and leverage on OpenAI's API for e-ticketing.

Staff and especially NICC and MIS staff who deal with e-ticketing should learn how AI ethics act as a safeguard against biases, privacy violations, and unintended consequences that can harm others.

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Mapping the Landscape: Trends, Gaps and Future Directions of Research in Open, Distance and eLearning in Nigeria (2000 - 2020)

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This study presents a scoping review of the research articles on open, distance, and eLearning in Nigeria from 2000 to 2020. It aims to portray the state of research, identify trends, determine gaps, and highlight priority areas based on a validated classification of research themes as part of a National Research Fund-supported project on *“Setting an Agenda for Research into Open, Distance and eLearning in the Global South: Nigeria as a case study”*. Both descriptive and analytical methodologies were adopted to ensure a rigorous and holistic understanding. The study employs a scoping review methodology to identify peer-reviewed literature in Open and Distance Learning studies in Nigeria collated from databases such as ERIC (EBSCO), Web of Science, Directory of Open Access Journals, and Google Scholar. The first phase comprises the screening of titles and abstracts by independent reviewers (n = 1,088), followed by a review of full texts (n = 1,027). Data from 653 articles are extracted and analysed. Through a thematic content analysis, research themes, methodological approaches, geographical distribution, challenges, opportunities, best practices, and policy recommendations are identified. In addition to highlighting research areas that have been neglected during the period under review, the findings of the study can contribute invaluable insights to future research prospects and policy formulation, and inform a research agenda for ODeL in Nigeria with potential implications across similar contexts within the global south.

Using student data to improve student learning outcomes at scale: A progress report from the National Open University of Nigeria

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The potential benefits of utilising student data for enhancing student learning outcomes are widely acknowledged, especially through the lens of Learning Analytics. This study reports on the first institutional adoption and implementation of Learning Analytics, at scale, in an open, distance and eLearning (ODEL) context on the African continent. Learning Analytics at the National Open University of Nigeria (NOUN) aims to enhance student success by using Learning Analytics to inform learning design and course development as well as inform learner support and progression. A major finding emerging from the implementation is the results of an institutional data audit that confirmed not only the availability of a lot of digital/digitised data (automated, directed, and gifted) but also provides ample basis for the implementation of Learning Analytics in three high-risk module contexts to inform pedagogy and support. This present study presents insights from a top-down and bottom-up approach to stakeholder engagement and findings from a pilot of three selected courses. These courses were chosen based on their large enrolment, concerns regarding student achievement, and the presence of significant online pedagogical footprints. The study offers valuable lessons for the adoption of university-wide strategic approaches for the implementation of Learning Analytics, in ODeL contexts on the continent, and the potential impact on learners' outcomes and support activities.

Promoting quality in open, distance and e-learning in higher institutions of learning: a case of using the African Council for Distance Education quality assurance tool kits

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The African Council for Distance Education (ACDE) is a continental membership educational organization comprising African universities and other higher education institutions, which are committed to expanding access to quality education and training through Open and Distance Learning (ODL), including eLearning. The idea of establishing ACDE was mooted at the SCOPE-ICDE conference on distance education held for the first time on the African Continent at the University of South Africa (UNISA), Pretoria, in 2002. It was underpinned by the desire of African Vice Chancellors to establish a unifying body that would facilitate and promote the pooling of resources, shaping and influencing continental policies on open and distance education, and collectively sourcing for and trapping into resources available from the national, regional and the international communities for the advancement of education and training. For the longest time, education was delivered within the confines of a classroom where the instructor interacted face to face with the learners. As many people continued to seek education, it became difficult to contain all of them in a classroom. This brought about open and distance education where learners can access education without being restricted by their physical location and time. Over time, Open and Distance Learning (ODL) has become a common component of education in almost all institutions of higher learning due to its flexibility but also as a result of COVID 19. Institutions in the world including Africa have come to embrace the ODL mode of teaching and learning. Individuals have continued to gain knowledge, which ordinarily would have been inaccessible to them without the ODL mode of study. However, there have been concerns regarding the quality of distance education where many people have been skeptical as to whether education under open and distance learning is effective; yet most organizations are looking up to distance education or e-learning to provide training and development for their employees. It is in view of this that the African Council for Distance Education came up with a quality assurance tool kit to support her member institutions to maintain quality when offering programmes through ODeL. This presentation highlights the objectives of the ACDE QA tool kit, its importance and the processes of certifying institution that will use the tool kit.

Farmer Education and Training Institutions in the Digital Era: A Case Study of the Development of the Agricultural Broadcasting and Television School System in China

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With the rapid advancement of digital technology, substantial shifts have occurred in the learners' requirements, methods and ways of receiving education and training. As a specialized institution for farmer education and training that employs both face-to-face and modern distance education methods for teaching, the ABTS has been diligently searching for more accurate target positioning and development directions. It remains committed to consistently exploring educational and training pathways, adapting to changes of the times, aligning with needs of the society, precisely connecting the learners, and ensure sustainable growth. This is aimed at better and faster cultivation of a greater number of high-quality rural talents, providing robust human resources for comprehensive rural revitalization, accelerating agricultural and rural modernization, and building up China's strength in agriculture.

Development and evolution of the Agricultural Broadcasting and Television School system in China

Emerge alongside the development of the times

The establishment of the Agricultural Broadcasting and Television School (hereafter refers to ABTS) system in China marks an inevitable result of China's agricultural and rural economic reform and development. In the early 1980s, the household contract responsibility system was launched in the countryside, injecting vitality into the agricultural and rural economies. The take-off of agricultural and rural economy urgently needs a substantial influx of agricultural technology professionals and simultaneously, the farmers who had gained autonomy in production and management sought access to scientific knowledge. Yet, during that period, China's educational resources, particularly those dedicated to rural education, were notably scarce, and the traditional educational framework failed to cater to the needs of grassroots rural cadres and the vast majority of farmers. In this specific context, the Central Agricultural Broadcasting and Television School, established in 1980 as a non-profit institution dedicated to farmer education and training, was a collaborative initiative involving ten national ministries, operating under the administration of the Ministry of Agriculture. Since 1981, the Agricultural Broadcasting and Television School at the provincial, municipal, and county-level were established one after another, collectively giving rise to the comprehensive ABTS system. Its distinctive guiding principle of being "oriented towards rural areas, agriculture, and farmers" underscored its vitality and superiority. By integrating face-to-face and distance education, ABTS has nurtured a substantial pool of local rural practical talents, grassroots cadres, and agricultural technology extension professionals tailored to meet the demands of rural communities. Characterized by cost-effectiveness, prompt results, high capacity, and wide coverage, this way of school running both conforms to China's national conditions and meets the specific needs of farmers.

Comply with social transformation, development and change

In response to the changing times and the demands of agricultural and rural development, the work and functions of the ABTS system have evolved from the exploratory start-up phase, the systematic development phase, and the optimization and enhancement phase. It has experienced transformation in various aspects such as system building, educational models, and development connotation. **During the exploratory start-up phase (1980-1989), it tried to achieve breakthroughs focusing on addressing rural education needs.** Primarily relying on remote methods such as radio and television, the aim was to meet the needs of grassroots rural cadres and farmers for education and training, and to alleviate the shortage of educational resources in rural areas. When the school was founded in 1980, it was called the Central Agricultural Broadcasting School, teaching was conducted through remote means such as broadcasting. In November 1984, it started to offer secondary school education for village cadres. In February 1987, it was renamed the Central Agricultural Broadcasting and Television School. TV satellite channels were added to broadcast teaching programs, diversifying the means of farmer education and training. **In the systematic development phase (1990-2011), it centered on national projects to achieve development.** The ABTS system relied on national special projects to launch large-scale training programs for farmers' technical and skill development, gradually became the primary channel for farmer education and training. Since 1990, it organized and carried out a series of farmer education and training programs, including the Green Certificate Training, Cross-Century Young Farmers' Science and Technology Training Project, New-Type Farmer Science and Technology Training Project, and the Rural Labor Force Transfer Training Sunshine Project. These initiatives laid the groundwork for exploring normalized and standardized way for farmer education and training. In December 1999, it was granted the Farmer Science and Technology Education and Training Center affiliated with the Ministry of Agriculture, consolidating its dominating position as a specialized institution for farmer education and training. Since 2006, it actively promoted the "One Million Secondary School Students Program" for rural practical talent development nationwide, breaking away from the traditional campus-based education model and providing secondary school education closer to the farmers' locations, thereby offering a new pathway for farmers to receive school record education.

Institutional development and highlighted educational effectiveness

After 43 years of development, ABTS has evolved into the world's largest distance education institution dedicated to serving rural areas, agriculture, and farmers. It operates in collaboration with 17 organizations, including the Ministry of Agriculture and Rural Affairs, the Organization Department of the Central Committee of the CPC, the National Development and Reform Commission, and the Ministry of Education. There are 1,983 ABTS schools across central, provincial, municipal, and county levels nationwide, along with an additional 16,451 farmer field schools, thereby establishing a five-tier school running framework covering the rural areas and the farmers. Its scope of work includes online and offline education and training, technology promotion, science popularization, information dissemination, and farmer sports. At present, 65,000 students have been enrolled in secondary and higher ABTS vocational schools, with a cumulative total of over 5 million farmers having attained secondary or higher vocational education qualifications. Every year, its high-quality farmer training program benefits 450,000

farmers, and it also offers approximately 12.6 million person-times of practical agricultural technology training. A total of 100,000 leaders in rural practical talents have been trained.

New demands in farmer education and training arising from new trend

Currently, China's efforts related to agriculture, rural development and farmers have come to a new phase, featured by promoting rural revitalization, expediting agricultural and rural modernization, and building up its strength in agriculture. To ensure effective execution of key tasks in agricultural and rural development, there's a higher requirement for rural talents in their abilities related to production, management, countryside governance, resource allocation, and innovation application etc., a shortage of various types of talents in the countryside has proved to be a big obstacle in implementation of key strategy. According to survey, prominent contradictions between supply and demand for rural talent leaders have been reflected in inadequate numbers, imbalanced structure, and low qualifications of those leaders for new agricultural operation and service providers. A significant portion of personnel in agricultural production and operation only received junior middle school education or even below. The leaders of the grassroots level organizations are not competent enough to guide or motivate others, with aging and lack of successors remaining to be major issues. There is an urgent need to cultivate a large pool of high-quality rural talents who are passionate, down-to-earth, competent and willing to stay in the countryside to lead and support the comprehensive revitalization of rural areas.

Anchoring the positioning for sustainable development goals of education and training institutions

As for the goals, ABTS at all levels across the country follow the direction of "sticking to the right path for innovation, transformation and development". On the one hand, ABTS is committed to upholding its nonprofit role in serving farmers on behalf of the government. It will keep focusing on its core mission of providing education and training to farmers, maintaining strengths in collaborative school running, unique system and distance education. On the other hand, ABTS is making every endeavor to adapt itself to the needs of social transformation and trends. Its functions will be more diversified from simply school running to comprehensive service offering, its form will be shifted from virtual school model to physical school model, its connotation will be changed from routine training to discipline construction, and its management will be upgraded from loose instruction to strict incentives. As for working measures, first, strengthen synergy of the ABTS system in running schools. CABTS is accountable for coordination and planning, provincial-level ABTS provides guidance, municipal-level ABTS supervises the implementation, and county-level ABTS delivers frontline education and training, farmer field schools offer education and training to farmers working on the farmland. In this way, ABTS schools at all levels are connected, with resource shared and each other's advantages complemented. Second, integrate and mutually promote online and offline education. ICT application will be strengthened in teaching and learning. Promote to achieve effective synergy between online and offline education and training, and make them complementing each other. Provide diversified education and training programs which are precise, practical, convenient, and fast

to meet the personalized and differentiated learning needs of farmers. Third, expand pathways for collaborative school running, establish a three-tier collaborative leadership mechanism to promote development through extensive consultation and joint contribution. ABTS has connection with various social resources, giving full play to the advantages of experts and teachers from the vocational colleges and research institutions, take the science and technology advantages of research institutions and agricultural extension agencies, while capitalizing on the strengths of agricultural businesses, agricultural parks, and farmer cooperatives in terms of business, technology and talent. This enables us to offer high-quality education and training, as well as internships and practical training opportunities to the learners. Enhance cooperation with businesses to be prepared for running physical schools.

Meet farmers' education and training requirement of different levels and categories

Focusing on core duties and businesses, fully leverage its role as a primary channel for farmer education and training. By launching programs such as the high-quality farmer cultivation program, rural practical talent leadership training program, the bellwether program of cultivating leaders for rural industry revitalization, and the cultivator program, the training requirements of different talents has been precisely addressed. We have trained talents of different levels and categories, such as grassroots organizational leaders, industry leaders, new agricultural business operators, and entrepreneurs returning to countryside to start up business, and etc. This has proved to be strong talent support for advancing modern agriculture and promoting rural revitalization. Reform and development in secondary vocational education has been actively promoted. Through the talent development initiative linking training, secondary vocational education and higher vocational education, pathways to grow rural talents have been explored. Shift from training to comprehensive talent development to extend the chain of talent cultivation and provide better service. In tandem with the specific themes, during training sessions, demonstration activities are organized to promote the learners' business development, introduce their working achievements and facilitate mutual learning and exchange. To meet the learners' needs, business match-up is organized to complement advantage for mutual benefit and win-win. Combine online and offline efforts to closely monitor the progress of learners. Provide the learners with policy information, technical guidance, platform exchange, online services and other support. Guide the learners to lead other farmers by setting an example. Host forums related to farmer development, and competitions on farmer skills, creativity, and entrepreneurship, to foster comprehensive development of the talent pool.

Create distance education platform adapted to the changing times

From radio and television to Internet in the early 20th century and satellite networks, and now the mobile Internet era, ABTS has always provided online learning platforms for farmers. It represents the modern agricultural distance education in China and serves as a crucial window for lifelong education to the farmers. It produces and broadcasts radio and television programs that are closely aligned with farmers' life and production, and cater to their audio-visual preferences, to promote new agricultural development concepts. TV programs like "Nong Guang Tian Di" (literally translated "ABTS world") and "Field Demonstration Show" are popular

with the farmers. On the platform of China Rural Distance Education Network, courses are offered for secondary vocational education, high-quality farmer cultivation, knowledge updates for agricultural technicians, and training for rural practical talent leaders. It has developed and operated the National Agricultural Science and Education Cloud Platform, launched *Yun Shang Zhi Nong* App (literally translated "cloud-based smart farmer"), opened *Nong Ke Jiang Tang* (literally translated "agricultural science lecture halls"), and built-up new media communication channels like *Nong Guang Xin Tian Di* (literally translated "ABTS new world"), *Nong Guang Xiang Yin* (literally translated "ABTS voice of the countryside"). It provides farmers with diverse, high-quality, and convenient online learning opportunities. Efforts are also being made to promote connection of traditional and new media content, with means and forms mutually promoted and complemented, thereby to boost different media integration. Ongoing nationwide training on mobile applications for farmers has been conducted to enhance their digital literacy and application skills.

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Rural Distance Education in China Adapting to the Changing Times: A Case Study of the Rural Distance Education offered by China Central Agricultural Broadcasting and Television School

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Modern distance education in China, developed in the wake of the country's reform and opening-up, is a vital component of its contemporary education landscape. It offers a fast and efficient way at a certain stage of history for the general public to acquire knowledge and obtain higher education degrees through remote means. There are three major distance education systems in China. The Open University of China directly affiliated with the Chinese Ministry of Education was established in 1978, based on the Central Radio and TV University. It is a higher education institution that offers distance education programs nationwide, covering both urban and rural areas. The Agricultural Broadcasting and Television School System nationwide directly affiliated with the Ministry of Agriculture and Rural Affairs, is led by the Central Agricultural Broadcasting and Television School (referred to as CABTS). Established in 1980, this specialized institution employs a combination of distance education and face-to-face teaching to provide training and education for rural farmers. The National Modern Distance Education System for Party Members and Cadres was established in 2003. It utilizes dedicated television, network, and terminal reception stations distributed in villages to produce and broadcast programs, serving the learning needs of party members and cadres in rural areas across the country.

The rural distance education in China offered by CABTS began in an era characterized by limited platforms, fixed channels, and a shortage of teaching resources. Over the past 43 years, the evolution of modern distance education methods at CABTS has reflected the progressive development of rural distance education in China. This evolution has experienced three phases, coinciding with the development of media platforms, digital information technology, and innovative applications, gradually realizing upgrading and transformation towards diversified means, abundant resources, and intelligent communication.

i. Launch distance education via radio and TV. The inception of distance education offered by CABTS can be traced back to radio-based education. In 1981, CABTS opened a new epoch for Chinese farmers to learn remotely through the radio wave, by broadcasting teaching programs on China National Radio, the top official broadcasting station in China. To expand the reach of education and improve its effectiveness, cassette tapes with the broadcast content recorded were distributed to farmers. Up to now, CABTS still has two radio programs aired on China National Radio, *Agricultural Class Representative* and *Rural Celebrities*, with a combined daily airtime of 1 hour.

In 1987, CABTS started to use TV for agricultural science and technology education and training, by producing and airing agricultural science and technology educational programs on China Central Television (hereafter refers to CCTV), the top official TV station in China. Currently, CABTS hosts two TV education programs, *Tian Yuan Bang Bang Tuan* (literarily translated *Countryside*

Helping Team) and *Modern Agricultural Production and Management* on CCTV and the dedicated channel for party members and cadres in rural areas across the nation, with a combined daily airtime of 2.5 hours. TV as a media has become a significant channel for innovative agricultural technology dissemination in China. Among the key crop varieties and recommended agricultural techniques issued by the Ministry of Agriculture and Rural Affairs, over 80% of them have been produced into TV programs for broadcast. CABTS distributes these TV programs in the form of video tapes and VCDs, serving as supplementary audio-visual materials sent to the teaching centers, thereby increase the utilization and dissemination of distance programs.

ii. Explore online education with the support of network technology. CABTS established “China Rural Distance Education Network” in 1999, and later constructed an independent satellite network system consisting of one central station, five provincial-level live broadcast sub-centers, and nearly 1,000 satellite remote receiving stations. By setting up a digital media resource repository, the various audio, visual and text educational materials produced, such as text books, radio programs and TV programs are collected and uploaded to the network, forming an online remote class accessible from both Internet and the satellite networks. In 2018, the “China Rural Distance Education Network” was upgraded to become CABTS online learning platform which offers courses in six major curriculum systems: secondary vocational education, new-type professional farmer training, agricultural technician knowledge updates, rural practical talent leader training, agricultural and rural practical technology, and teacher training. The course content spans over 20 different categories, including policy and regulations, business management, agricultural technology, rural governance, and etc. The platform receives over 6 million hits a year.

iii. Rely on information technology for innovative online learning. With application of information technologies such as cloud computing, big data and penetration of smartphones, the methods and means of distance education offered by CABTS have transitioned towards mobile communication. This shift has facilitated the reintegration, categorization, and fragmented dissemination of a vast array of educational resources. In 2016, CABTS started to build micro education platform, prioritizing the development of mobile App “*Yun Shang Zhi Nong*”, (literally translated “*Cloud-based Smart Farmer*”) with majority of farmers as the targeted users. The core functions of this App include online learning, technology dissemination, and support services for the farmers. Currently, the platform offers a diverse range of content, including technical videos, live courses, agriculture information, market insights, technical Q&A, and more, with over 7 million registered users. As smartphones become indispensable tools for farming, the “*Cloud-based Smart Farmer*” App has gained significant popularity among farmers. In 2018, it was honored with the farmers’ favorite Cultural Education App Award in the inaugural National “Farmer Aid App Exemplar” competition event. To adapt to the development of media convergence, efforts are concentrated on building new media communication matrix such as *Nong Guang Xiang Yin* (literally translated “*ABTS voice of the countryside*”) and *Nong Guang Xin Tian Di* (literally translated “*ABTS new world*”), to provide farmers with a wide range of convenient and high-quality online learning platforms.

Experience and inspiration

i. Modern rural distance education aligns with the rules and characteristics of farmer education and training. China is a big agriculture country with vast territory, it boasts diverse agricultural regions and rich business categories, which determines that the content of farmer education and training can be divided by both regions and business categories. Even in the same region, the development of different business categories has its own features. Furthermore, the overall educational backgrounds of Chinese farmers vary greatly. In 2012, China initiated the New Type Professional Farmer Training Program (later called “High-Quality Farmer Cultivation Program”), which annually cultivates millions of high-quality farmers, contributing to agriculture development, countryside development and governance. In 2017, China launched the Rural Revitalization Strategy, attracting a significant influx of college graduates, veterans, entrepreneurs, and others to participate in agriculture development and building the countryside into a pleasant place to live and work. These new trend and new situation underscore the importance of diverse and extensive education and training for the farmers. To address this diversified demand and complicated situation of farmer education and training, modern rural distance education has proven to be a rapid and effective approach. In 1981, CABTS fully utilized radio broadcasting, the most efficient and convenient media means at that time, and broadcast teaching programs on China National Radio, the top official broadcasting station in China. The programs were also made into audio tapes for wider distribution. At that time, this proved to be the best means to solve the shortage of teaching resources and satisfy the needs of the general public for knowledge learning. Later, CABTS expanded their reach of rural distance education through TV programs, online learning platforms, and “*Cloud-based Smart Farmer*” App, which are effective means to address the disparities in the demand of education and training for farmers in China.

ii. Information technology reshapes the rural distance education methods. Meeting the educational and training needs of every farmer learner to the fullest extent is the ultimate goal of rural distance education in China, which is inseparable from robust technology support. The methods and means taken by CABTS to offer modern distance education are supported by the latest cutting-edge technology of the time. Whether it was the early use of radio and TV means or later advancements like the China Rural Distance Education Network and satellite networks, they all leveraged the most advanced radio, TV, and network technologies available at the time as crucial support. The “*Cloud-based Smart Farmer*” App, launched and operational in August 2017, was developed based on significant advancements in big data, cloud computing, and mobile Internet technologies. The platform for “*Cloud-based Smart Farmer*” App follows a strategy of “platform upwards, services downwards,” has achieved “unified design, layered construction, resource sharing, and apportionment of liability”. The unified architectural design, centralized data pool, and standardized interfaces have greatly facilitated the technical implementation for platform promotion and application, rapidly driving the adoption the App at the grassroots level. The innovative application of remote means in rural areas in China owes much to information technology support. Looking ahead, the evolution of China’s rural distance education methods and innovations in farmers’ way of learning will continue to rely on the advancement of information technology development.

iii. Development of media platform drives rural distance education. When look back at the history of rural distance education in China, it becomes evident that it has been closely intertwined with the evolution of media platforms. At each stage of development, media platforms have ushered in new opportunities to rural distance education. The transformation of teaching resources has been marked by significant changes in content and format, transitioning from audio to visual programs, from tapes, videos to digital courses. It has evolved from systematic comprehensive long video courses to collections of concise and practical short videos, covering not only specific technical skills but also emphasizing the enhancement of overall qualities and self-development abilities. These changes continually bridge the gap of distance in remote education, better catering to the deeper and more specific learning needs of farmers. Simultaneously, the methods of learning have seen substantial shifts, with iterative upgrades in media tools providing farmers with a variety of learning approaches. More importantly, these advancements have addressed the shortcomings of one-way communication, poor timeliness, and limited relevance, fostering interactive, real-time, and practical learning experiences, resulting in immediate and tangible benefits for farmers. This convergence of learning and practice has become inseparable. The traditional methods, such as textbooks and learning through radio and TV, have constrained the farmer education to a limited scope. The development and utilization of smartphones, a new farming tool, have enabled farmers to break free from the constraints of geography and time when it comes to learning. This advancement has propelled them towards an integrated approach where learning goes hand in hand with practice, inquiries are made while working, and knowledge is immediately put into use. This shift aligns more closely with the preferences of farmers, who place a strong emphasis on actual results.

The basic ideas and key focuses of future rural distance education in China

According to statistics as of December 2022, the number of mobile internet users in China had reached a total of 1.065 billion. Over the past decade, new media platforms like *TikTok* and *Kuaishou* among others have experienced rapid growth, greatly challenged the traditional dominance of radio and TV. The era of omni-media has come with coexistence of traditional and new media. Nowadays, there's sufficient and even over supply of learning resources tailored for rural audiences. There's been a surge in content specifically designed for farmers, spanning from radio and TV programs, new media public accounts, and mobile apps, all of which have seen an enhancement in functionality and service offerings. Against this backdrop, there emerge some new trends related to farmer online learning, which are characterized by hybrid, community-based, and lifelong learning. "Hybrid learning" is to break away from a single model limited by learning methods, means, platforms, channels, resources, scenarios, time and space, rather it selects the most suitable platform and resources based on personalized needs, creating a tailored and individual learning experience. "Community-based learning" involves the establishment of themed communities on platforms, where learners with similar needs engage in interactive exchanges, making the learning experience more specific and social. "Lifelong learning" advocates that individuals cannot solely rely on educational institutions and certain means of education to address their problems once. Instead, they must learn consciously throughout their whole lives, integrating learning opportunities of different life stages to adapt to the development of economy and society.

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Full STEAM ahead: A self-study

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Introduction

Drawing on research from 44 studies, Perignat and Katz-Buonincontro (2019) identify two dominant reasons for incorporating STEAM (Science, Technology, Engineering, Arts, and Mathematics) learning experiences and digital technologies in P-12 schools:

1. To engage students in learning STEAM disciplines and digital technologies, and
2. To integrate “perspective-taking, creative and problem-solving skills, knowledge transfer across disciplines, and/or encouraging students to explore and experience new ways of knowing” (p. 34).

Theoretical Framework

STEAM is an educational approach to learning that uses Science, Technology, Engineering, the Arts, and Mathematics as access points for guiding teacher candidate’s inquiry, dialogue, and critical thinking. The results are teacher candidates (TCs) who take thoughtful risks, engage in place-based experiential learning, persist in problem-solving, embrace collaboration, and develop a growth mindset (Education Closet, 2017). Our third-year STEAM semester consists of four program of studies courses (Science, Educational Technology, Integrated Arts, Math) accompanied by a five week practicum experience where TCs intentionally plan and integrate a STEAM project in their practicum classrooms.

Methods

Aligned with key characteristics of self-study, our work was self-initiated (Hauge, 2021; LaBoskey, 2004) and involved reflecting on our personal and professional practice through ongoing and open dialogue (Samaras & Freese, 2009). This self-study involves five faculty members: four are STEAM course instructors and one is a critical friend not directly involved in the STEAM semester instruction. We worked as a collaborative practice group (Dinkelman, 2003; LaBoskey, 2004), meeting on a weekly basis throughout the STEAM semester to specifically discuss the integration of the four programs of studies courses (Science, Educational Technology, Integrated Arts, Math). Furthermore, as self-study should “not only be of significance to the person who conducting the study, but also of importance for creating meaning and contribute to increased understanding and knowledge for other teacher educators” (Hauge, 2021, p.2). We looked for implications beyond our own context and how other teacher education programs might consider ways to authentically integrate STEAM into their teacher preparation programs.

Data Sources

Our data collection consists of critical dialogue, notes, and reflections from our weekly meetings (Guilfoyle, Hamilton, Pinnegar & Placier, 2004) and our conversations with teacher candidates (Fletcher, Ní Chróinín & O'Sullivan, 2016). Ongoing review and analysis of the data focused on *exemplar-based validations*, providing "concrete examples of actual practices, fully elaborated so that members of a relevant research community can judge for themselves their "trustworthiness" and the validity of observations, interpretations" (Lyons & LaBoskey, 2002, p. 20).

Results and Conclusions

During the course of this integrated STEAM semester, we have observed our self-study discussions have focused on, but are not limited to, signature pedagogies which anchor our STEAM semester. Our discussions have examined the following topics: ways in which we can meaningfully integrate cross-curricular learnings in our courses; using a scaffolded, concurrent start of in-school placements so that students can connect with their school communities; exploring opportunities to strengthen community partnerships; the importance of active faculty supervision in school placements to support students and build relationships; encouraging and finding space for peer mentorship; construction and use of reflective journals and professional learning plans; and authentic inclusion of Indigenous ways of knowing in our teaching and our courses. Figures 1-3 provide illustrative examples of some ways in which we have focused on these pedagogical approaches.

Preliminary findings have led us to identify several areas in which our self-study has led us to better understand our practices and to make ongoing and iterative adjustments to our teaching. In particular, during each of our weekly meetings our conversations have looked at ways in which we might be responsive to students as needs emerge and evolve. Providing both a collaborative team approach to supporting students, as well as recognizing the emergent opportunities which present themselves to further their experiential learning experiences have both featured prominently in our meetings. A focus on the use of language as a 'team', we have seen that a clarity of communication within our team and extending to other colleagues, students, and partners has been a critical feature of our work. While we recognize the challenges of STEAM education to be meaningfully and authentically integrated across four different curriculums, our discussions looked for ways our students might connect learning from one course to another.

The wide variety of experiences and perspectives amongst our team has been an important and impactful means to supporting our ongoing reflections. While we have each held teaching roles in K-12 schools in the past, our team consists of both new post-secondary instructors, tenured and experienced instructors, and one member who brings a wealth of experience in k-12 classrooms and is on secondment to our post-secondary institute. This variety has provoked conversations about teaching in pre-service education where ideas and assumptions have been pushed and challenged in a collegial and meaningful way to better serve not only our students but each other. A greater appreciation for the expertise and perspectives each team member has brought to our self-study continues to strengthen and grow as we move forward.

Educational Implications

The educational research literature indicates that the use of a STEAM educational approach is growing rapidly in K to 12 schools, particularly in the elementary grades (Pomeroy, 2012). Thus, teacher candidates need 'first-hand' STEAM experience in order to be able to effectively engage their future students in this type of learning environment. Our work is intended both to improve our own professional practice and provide considerations for other pre-service education programs to learn ways in which they might support an interdisciplinary STEAM semester (Science, Technology, Engineering, the Arts, and Mathematics). While our focus continues to be on our students and supporting their success, we have continued to benefit in our own practices by engaging in the critical reflection and collaborative interactions that self-study offers.

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Principles of Blended Learning: Shared Metacognition and Communities of Inquiry

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With the pivot to remote learning during the Covid-19 pandemic, blended approaches to learning received an increasing amount of attention (Pelletier et al., 2021). Virtually all courses in higher education already incorporated digital technologies to some degree, and the pandemic accelerated this adoption. These technologies created new possibilities for students to interact with their peers, faculty, and content. The infusion of information and communications technology in higher education has drawn increased attention to the theory and practice of blended learning.

Blended learning inherently demands a fundamental rethinking of the educational experience and presents a challenge to traditional presentational approaches. If we are to deal with the theoretical and practical complexities of rethinking the educational experience from a blended learning perspective, then the first challenge is to provide conceptual order that goes beyond rigid, non-reflective recipes. Such order and coherence are of particular importance for practitioners who may not fully appreciate the possibilities that new and emerging technologies present for engaging learners in deep and meaningful educational experiences. It would seem that a conceptual framework may well be of the utmost value to assist practitioners in navigating through the educational and technological levels of complexity.

The purpose of this presentation is to describe blended learning and then to establish the rationale through which we can explore the practical challenges in implementing blended learning approaches in higher education. This rationale is operationalized in the Community of Inquiry (CoI) theoretical framework (Garrison, 2017). The CoI framework is outlined with a particular focus on shared metacognition and teaching presence. From this framework, seven principles of practice for blended learning have been derived.

Blended Learning Described

Since the publication of the book, *Teaching in blended learning environments* (Vaughan, Cleveland-Innes, & Garrison, 2013), there has been an increase in the types and terms used for course modalities in higher education (Skrypnik et al., 2015). Pelletier et al. (2021) comment “that until recently higher education has, for the most part, been evolving its way forward—sometimes enthusiastically, sometimes hesitantly—in its adoption of online and blended course models” (p.16). However, the Covid-19 pandemic delivered a seismic jolt that significantly accelerated this evolution, forcing higher education to become inventive and create an array of new course models to cope with a truly unique situation. Especially challenging was the fact that many of the blended models crafted in response to Covid-19 had to be modified almost on

the fly, according to the ebbs and flows of the pandemic. Peletier et al. (2021), indicate the result is that “higher education now uses a wide and diverse spectrum of course models—so diverse, in fact, that the terminology can be confusing” (p.16). Irvine (2020) adds:

On today’s higher education campus, there are likely a dozen new terms being used to describe different configurations around the modality of courses. Modality typically refers to the location and timing of interactions. What used to be a simple binary of face-to-face or online has now become so extremely complex that our ability to understand each other is impaired. (p.42)

In response to this confusion over nomenclature, a study conducted during the Covid-19 pandemic found that “Students continue to want face-to-face classes more than any other learning environment, with a majority preferring either completely or mostly face-to-face” (Gierdowsk et al., 2021, Key findings section). A research report on blended learning by Jooston and Weber (2021) also stresses a student preference for courses that combines face-to-face and online learning opportunities. The findings from this report were almost identical to a similar research study conducted in New Zealand (Brown et al., 2021) and another one in Australia (Cuesta Medina, 2018).

Johnson (2019) eloquently describes the importance of blending campus-based and online learning for students in order to prepare them for future life opportunities. In addition, Gordon (2021) emphasizes that institutions need to realize that “one size does not fit all” – each course and program needs to find its own unique integration and balance of face-to-face and online learning in order to achieve student success and satisfaction.

Thus, we continue to focus on the definition of blended learning that we put forward in *Blended learning in higher education* (Garrison & Vaughan, 2008) as “the organic integration of thoughtfully selected and complementary face-to-face and online approaches” (p.148). By organic, we mean that it is grounded in practice. By using the term thoughtfully, we indicate a significant rethinking of how we should be approaching the learning experience.

With regard to a thoughtful approach, we expressly exclude enhancing traditional practices that do not significantly improve student engagement. That said, we do not want to restrict innovative blended learning designs by providing strict parameters as to the percentage of time spent face-to-face or online. We have chosen to provide a qualitative definition that distinguishes blended learning as an approach that addresses the educational needs of the course or program through a thoughtful fusion of the best and most appropriate face-to-face and online activities. The key is to avoid, at all costs, simply layering on activities and responsibilities until the course is totally unmanageable and students do not have the time to reflect on the deeper meaning and engage in discourse for shared understanding. Twigg (2003) refers to this as the course and a half syndrome.

Blended learning is the inspiration of much of the current innovation, both pedagogically and technologically, in higher education. By innovation, we mean significantly rethinking and redesigning approaches to teaching and learning that fully engages students. The essential function of blended learning is to extend thinking and discourse over time and space. Higher education is fraught with considerable rhetoric about the importance of engagement. Still, most institutions’ dominant course mode remains delivering content either through the lecture or

self-study course modules. Blended learning is specifically directed to enhancing engagement through the innovative adoption of purposeful online learning activities. The strength of integrating face-to-face synchronous communication and text-based online asynchronous communication is powerfully complementary for higher educational purposes.

The goal of blended learning is to bring these together in ways that academically challenge students, not possible by either mode individually. There is a distinct multiplier effect when integrating verbal and written modes of communication. An added benefit is that blended learning sustains academic communication over time. Moreover, students have time to reflect and respond thoughtfully. Finally, while there are significant administrative advantages gained through blended learning designs (e.g., access, retention, campus space, and teaching resources), the focus here is on the quality of the learning experience made possible through blended approaches.

In the next section of the presentation, we will explore the ideas of engagement and academic inquiry central to the ideals of higher education. These ideas are inherent to learning communities and provide the foundation for implementing blended learning. Learning communities provide the conditions for discussion, negotiation, and agreement in face-to-face and online environments with virtually limitless possibilities to connect to others and information. It is such a community that we describe next, and that frames the principles of practice for blended learning.

Community of Inquiry Framework

An educational Community of Inquiry (Col) is a group of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding (Garrison, Cleveland-Innes, Vaughan, 2022, Col Framework section). The Community of Inquiry (Col) theoretical framework was derived from higher education literature. It is a generic educational model applicable to any number of educational contexts and modes of communication. While it has been used to study and design online educational experiences, it is just as applicable to collaborative and meaningful face-to-face inquiry. For this reason, it has been shown to be effective in designing blended learning environments (Garrison & Vaughan, 2008; Vaughan, Cleveland-Innes & Garrison, 2013). Moreover, the Col framework is considered to be a pivotal contribution and turning point for distance education (Bozkurt, 2019).

The three key elements or dimensions of the Col framework are – social, cognitive, and teaching presence (Figure 1). It is at the convergence of these three mutually reinforcing elements that a collaborative constructivist educational experience is realized. Social presence creates the environment for trust, open communication, and group cohesion. Cognitive presence has been defined “as the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry” (Garrison, Anderson, & Archer, 2001, p. 11). It has been operationalized through the developmental phases of inquiry – triggering events, exploration, integration, and resolution. The third and cohesive element, teaching presence, is associated with the design, facilitation, and direction of a Community of Inquiry. It is the unifying force that brings together the social and cognitive processes directed to personally meaningful and educationally worthwhile outcomes. Research studies have

demonstrated that a high level of teaching presence is a good predictor of student success and satisfaction in a blended or online course (Shea et al., 2010; Torras et al., 2011; Zhang et al., 2016; **Zhao et al., 2017**).

Shared Metacognition

As we previously described, there has been an increased focus on the topic of student engagement and access to higher education. In order to address these issues, Littky and Grabelle (2004) advocate for a curriculum redesign that stresses relevance, relationships, and rigour (3R's of engagement). It has been suggested that such a redesign would enable students to meaningfully engage in sustained learning experiences that may lead to a state of optimal flow. Csíkszentmihályi (1997) defines optimal flow as "the mental state of operation in which the person is fully immersed in what he or she is doing by a feeling of energized focus, full involvement, and success in the process of the activity" (p.9).

Recently, the focus in higher education has shifted from an individualistic to a more collaborative approach to learning (Kromydas, 2017). At the core of meaningfully engaged inquiry is the concept of metacognition, which is simply "thinking about one's thinking" (Chick, 2013, Thinking about one's thinking section). Metacognition is key to learning how to learn. Metacognition means increasing awareness of the learning process and taking responsibility to control the learning process (Garrison, 2017). Metacognitive approaches to learning start with understanding and engaging where possible in designing and planning the learning experience.

In terms of understanding shared metacognition and its role in a Col, the premise is that developing metacognitive awareness and ability is core to becoming an effective inquirer. Metacognition has been generally accepted as consisting of two components – awareness of the inquiry process (monitor) and implementation strategies (regulation). Awareness allows students to monitor and actively manage/regulate the inquiry process. In short, metacognition awareness and implementation abilities provide the knowledge and strategies to monitor and manage effective inquiry. Most importantly, in a collaborative learning environment, awareness and implementation techniques are developed through critical discourse and the requirement of participants to explain and justify one's thinking to self and others. The approach to developing a viable metacognition construct for collaborative learning environments is to subsume self and shared regulatory functions within a single construct. This shared metacognition construct (Garrison, 2017; Garrison & Akyol, 2015) reflects the dynamic dimensions of self and co-regulation each exhibiting a monitoring (awareness) and a managing (strategic action)

Teaching Presence

Introducing a phenomenon as complex as teaching presence in a blended learning context is a daunting task. Beyond discussing teaching with technology, this requires explicating, examining, and describing a new approach to teaching in a new era of higher education. We see that changes needed in higher education are now emergent – "neither the purpose, the methods, nor the population for whom education is intended today, bear any resemblance to

those on which formal education is historically based” (Pond, 2002, Introduction Section). These changes include a new way of conceiving of, and offering, teaching, and learning.

We focus here on the teaching presence construct as evidence is growing that points to the importance of teaching presence for the success of a Community of Inquiry (Akyol & Garrison, 2008; Arbaugh, 2008; Eom, 2006; Shea et al., 2005; Taghizade et al., 2020). This conceptual framework requires new and expanded ways of thinking about the role of teacher and student. Blended learning provides expanded possibilities and difficult choices for the teacher and students in a Community of Inquiry. Teaching presence is distributed within the learning community but is not diminished as the importance and challenge is magnified in blended environments. Teaching presence is enhanced when students become more metacognitively aware and are encouraged to assume increasing responsibility and control of their learning. Much attention needs to be focused on teaching presence if we are to create and sustain the conditions for higher-order learning.

The issue of shared responsibility points out that each student in a Community of Inquiry must take on some responsibility for social, cognitive, and teaching presence. This is why the third element of the Col framework is labeled *teach/ING* presence and not *teachER* presence. It is not just the teacher who is responsible for social and cognitive presence issues. All students in a collaborative learning environment must assume varying degrees of teaching responsibilities depending on the specific content, developmental level, and ability. From a cognitive presence perspective, the teacher and students must be prepared to clarify expectations, negotiate requirements, engage in critical discourse, diagnose misconceptions, and assess understanding. Students must also be aware of and active in social presence cultivation and ensure that everybody feels they belong and are comfortable contributing to the discourse while simultaneously respectfully challenging ideas.

The pioneering innovation of virtual communication and community places both teacher and student in new ways of engaging, interacting, and contributing to learning. The challenge is that simply providing opportunities for interaction and collaboration does not assure that students will approach their learning in deep and meaningful ways. The engagement of students in blended learning environments constitutes multiple roles and responsibilities. This role multiplicity creates complexity, as students must assume varying degrees of responsibility to monitor and regulate the dynamics of the learning community. This is consistent with the very nature of a Community of Inquiry with shared academic goals and processes.

Principles

Principles are essential to translate theoretical frameworks into coherent practical strategies and techniques. Principles become even more valuable in coping with the complexities of integrating the potential of new and emerging communications technology. A principled approach to teaching that arises from a sustained Community of Inquiry takes us beyond the traditional lecture all too common in higher education. The principles that give structure to teaching presence encourage students to assume greater responsibility and control of their educational experience.

The seven principles are:

1. Design for open communication and trust that will create a learning community
2. Design for critical reflection and discourse that will support inquiry
3. Establish community and cohesion
4. Establish inquiry dynamics (purposeful inquiry)
5. Sustain respect and responsibility for collaboration
6. Sustain inquiry that moves to resolution and shared metacognitive development
7. Ensure assessment is aligned with learning outcomes and growth for all students

The first two principles speak to the social and cognitive challenge of designing a collaborative blended learning experience. The next two principles address the social and cognitive concerns associated with facilitating a Community of Inquiry. The last three deal with the social, cognitive, and assessment responsibilities of directing and leading an educational experience to successfully achieve the desired outcomes. These seven principles are the first step in providing specific practical guidelines to the design, facilitation, and direction of a collaborative Community of Inquiry in a blended context.

Conclusion

We will conclude our presentation by demonstrating how to put these principles in practice to design, facilitate, and direct blended learning experiences. We need to first uncover the strengths and weaknesses of face-to-face and online experiences as we consider each of these principles. We then need to develop strategies and techniques that fuse face-to-face and online learning to create purposeful blended Communities of Inquiry in the support of deep and meaningful approaches to teaching and learning.

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Community of Inquiry: Developing a learner self-assessment tool

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Introduction and Theoretical Framework

The Community of Inquiry (Col) is one of the most cited theoretical frameworks for guiding online and blended learning educational research (Google Scholar, 2022). Author 1 and Author 2 (2020) have also used this framework for designing, facilitating, and directing pre-service teacher education courses. The Col is a Canadian framework that was developed at the University of Alberta by Garrison, Anderson, and Archer (2000). The three key elements or

At the convergence of these three mutually reinforcing presences, a collaborative constructivist educational experience is realized. Social presence creates an environment for trust, open communication, and group cohesion. Cognitive presence has been defined “as the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry” (Garrison, Anderson, & Archer, 2001, p. 11). It has been operationalized through the developmental phases of inquiry; triggering events, exploration, integration, and resolution. The third and cohesive element, teaching presence, is associated with the design, facilitation, and direction of a Community of Inquiry. Teaching presence is the unifying force that brings together the social and cognitive processes directed to personally meaningful and educationally worthwhile outcomes.

A recent systematic review of the Community of Inquiry found that articles about the framework do not provide many examples of specific instructional approaches (Moore & Miller, 2022). In this same regard, recent work on the Col highlighted that paying closer attention to having students “optimally perceive” teaching presence can lead to improved competence and satisfaction of basic needs (building the whole person) (Turk et al., 2022). In response to these critiques, we have begun the development of a learner self-assessment tool, initially designed for use by pre-service education students. The Col learner tool is a 32-item self-reflection advance organizing tool intended as a praxis and scaffolding resource for the Community of Inquiry-based learning design. The tool itself weaves self-reflection and Col definitions and diagrams to make Col philosophy explicit by decomposing the complexity and promoting the core concepts of lifelong learning tendencies, including motivation, perseverance, and learning regulation (Coşkun & Demirel, 2010).

This paper describes the research approach we are applying to the development of the Col learner self-assessment tool. The tool is put forward as one way to add to the suite of practical tools that support Community of Inquiry design and evaluation, specifically with regards to pre-service teacher education. The primary intent of the tool is to scaffold the understanding of the Col by using a graphical advance organizer that promotes reflective self and co-regulation for education students.

Methodology

An action research approach is being utilized for this study. This methodology is a reflective process of progressive problem solving led by individuals working with others in teams or as a part of a 'community of inquiry' to improve the way they address issues and solve problems (Stringer, 2014). This research approach should result in some practical outcome related to the lives or work of the participants, which in this case is the development of the Col learner self-assessment tool.

This study has received institutional human ethics research approval and the data collection is both quantitative and qualitative in nature. In the fall of 2021, we piloted the self-assessment tool as an anonymous online *Google Forms* survey at the end of the semester. This survey consisted of forty Likert scale questions (1 to 5) and four open ended questions. A total of eighty-two teacher candidates completed the online survey (72 female and 10 male).

Based on the results from the fall 2021 survey, we re-developed the Col: Learner self-assessment tool as a *Google Doc* template (Figure 2). This template consists of thirty-two Likert scale self-rating questions (1 to 5). Each teacher candidate creates their own copy of the template. For each question, there is a graphic organizer, prompts, and space for the teacher candidates to document their growth at the beginning, mid-point, and end of the semester. For the fall 2022 semester, eighty teacher candidates (65 female, 15 male) have agreed to pilot our redeveloped tool.

Data analysis consists of descriptive statistics (e.g., means, medians, frequencies) in *Google Spreadsheets* and a constant comparative approach in *Google Docs* for the open-ended questions. We are attempting to identify patterns, themes, and categories of analysis that "emerge out of the data rather than being imposed on them prior to data collection and analysis" (Patton, 1990, p. 390).

Preliminary Findings

The preliminary findings from the fall 2021 semester have helped to shape the redevelopment of

Col: Learner self-assessment tool. In the *Google Forms* survey, the teacher candidates were asked if the tool helped them understand the Community of Inquiry framework. The majority indicated that the tool was a good starting point but they recommended that the Col should be more "explicitly interwoven throughout the entire course rather than just in an end of semester survey" (Survey response 13).

In terms of the benefits of a self-reflection tool in a teacher education program, one student commented that it "helps identify the areas I am successful in and the areas I need to continue to work on as a future teacher" (Survey response 47). Another student stated that "using a tool like this encourages metacognition; we think about how we learned, how we went through the course" (Survey response 22).

With regards to challenges, a number of students indicated that "there were a lot of questions and it was a lot to read" (Survey response 61). Others stated that "some of the questions confused me or just did not resonate with me for whatever reason. I think the wording was too

difficult to follow and some of the questions were lost on me because I didn't really understand the nuances of them or what they were getting at completely" (Student response 33).

The teacher candidates made several recommendations for improving the Col: Learner self-assessment tool that we have incorporated into the redeveloped version. They suggested including "more visuals, make it engaging to look at and to help understand the questions" (Student response 17). As well as "taking the time at the beginning of the semester to explain this tool to us so we know why we are doing it and how we can use it throughout our course" (Student response 6).

Educational Importance of Study

Future K to 12 teachers must be conscious of their thinking and learning processes in order to be effective educators. Thus, teacher candidates in pre-service education programs should be provided with tools and opportunities to manage and monitor their learning activities if they are to judge the success of their learning strategies and tactics. That is, teacher candidates need to be aware of their thinking and that of others to effectively regulate thinking and learning critically. Our hope is that our research study will allow for the effective use of our Community of Inquiry: Learner self-assessment tool in other teacher education programs.

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A systematic review of how the HyFlex learning model is used to support students in higher education institutions in developing countries

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The shift to distance learning is the reality of many higher education institutions. The COVID-19 pandemic emphasised to higher education institutions the value of combining several teaching and learning modalities to provide high-quality education to the general public. Numerous studies have been conducted worldwide on blended education; however, the focus has been mainly on alternating online and face-to-face sessions and rarely on concurrently using these two modes of teaching and learning. This study will focus on the HyFlex learning model, which entails the multimodal delivery solution and approach to serve students face-to-face and at a distance through a mix of contact, online synchronous and asynchronous classes. Unlike a blended learning model, HyFlex offers students the greatest flexibility to decide and choose their educational experiences, including how, where and when they would like to learn, ensuring the effectiveness of the learning process. The study will further explore the student support strategies used in the HyFlex learning model in these contexts. Through a systematic review, this research aims to examine the peer-reviewed papers published between 2012 and 2022 in Scopus and Web of Science - two of the biggest bibliographic databases that cover scholarly literature from almost any discipline. A qualitative narrative synthesis will be employed to critically examine published papers following the 2020 PRISMA guidelines. The study aims to advance knowledge on how HyFlex can be successfully implemented in higher education settings in developing countries to better meet the needs of different students and provide them with the necessary support. The chosen studies will be used to inform relevant recommendations.

Evaluating student support provision in a hybrid teacher education programme using Tait's framework of practice

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Effective student support is key in stemming the dropout tide in distance education. This presentation reports on the student support provision in a hybrid teacher education programme. Altogether 160 participants were purposively selected; 126 completed a survey, 33 (30 students and 3 administrative staff) took part in six focus group discussions; and one instructional designer took part in a one-on-one interview. Tait's framework on student support guided the study. The data analysis involved descriptive statistics and thematic analysis. The findings revealed that, although the institution is striving to support its students, areas that need attention include call centre services, tutor support services, tutor-student communication, and funding. Recommendations include the need for providers to pay particular attention to students' whole experience to ensure effective student support. Further research is needed regarding the contextualisation of each aspect of Tait's framework.

Parents of children with disabilities' perceptions and experiences of inclusive education in Abuja, Nigeria

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Introduction

The Salamanca Statement and Framework for Action on Special Needs Education, which was created in 1994 (UNESCO Citation 1994), is credited with inspiring the current emphasis on school inclusion. The Salamanca document includes normative inclusion principles that acknowledge institutions that welcome all students, emphasize diversity as a strength, foster learning, and attend to individual needs (UNESCO, 1994, UNESCO, 2020). Beyond Salamanca, member states, organizations that signed the statement, politics, and research and educational organizations have all shown an increased interest in inclusive education. To better understand inclusion and how it can be achieved, inclusive education research is even more crucial (Hernández-Torrano, Somerton, & Helmer, 2020). This is because the concept of inclusion and the development of inclusive practices are understood and defined differently in and between different countries. Researching inclusive education is even more crucial for understanding what inclusion is and how it can be accomplished because of the differences in how the concept and development of inclusive practices are understood and defined in and between different countries (Hernández-Torrano, Somerton, and Helmer, 2020). Recent systematic reviews on the idea of inclusion have been conducted by a number of institutions, and it has been noticed that the notion of inclusive education varies among theoretical paradigms. While some contend that the fundamental idea of inclusion only applies to certain groups or categories of people, others contend that inclusion affects everyone (Nilholm & Göransson, 2017). The Salamanca statement is frequently cited by scholars who focus on inclusive education to emphasize the value of social justice, democracy, and the abolition of all forms of exclusion and prejudice (Hernández-Torrano, Somerton, & Helmer, 2020). However, because context and people vary from situation to situation, inclusive education as a normative, based policy is difficult to explore in research and to achieve in particular educational situations (Caspersen et al., 2020; Halinen & Järvinen, 2008).

These youngsters with special needs (challenged) belong to groups of people who struggle to study in a typical classroom. They are gifted children who, for a variety of reasons, are unable to perform at the same level as the majority of people in society. However, inclusive education approaches teaching and learning holistically. All parties involved in the education system must be in favor of inclusive education for it to be successful and long-lasting. According to Garuba (2010), these stakeholders include Federal Ministry of Education, Universal Basic Education Commission (UBEC), State Ministry of Education, State Universal Basic Education Board (SUBEB), special educators, schools, universities, communities, parents, children with special needs, relevant non-governmental organizations (NGOs) and professional bodies. There is dearth of literature on inclusive education in Nigeria. Hence, the need to investigate parents of children with disabilities' perceptions and experiences of inclusive education in Abuja, Nigeria.

Concepts and Theoretical Model

Investigating inclusion and exclusion in schooling requires understanding the social system. Social communication is what develops a social system. Information, messages, and understanding are all part of communication, which is carried out through language and physical activities. A system conveys meaning once it is created. Meaning serves as the internal node around which the system's communication is centered. It also establishes what kinds of communication and ideas are acceptable in the system and which kinds are not. For instance, classroom activities can convey a wide range of meanings and as a result, include a wide range of social subsystems.

Research Methodology

a. Data and Research Design

The study used data from a representative cross-sectional household survey two (2) local governments situated in Federal Capital Territory (FCT), Abuja in Nigeria. A multistage sampling technique will be used to select the households from the sample area. A pre-tested interviewer administered questionnaire will be used to collect information on socio-demographic variables, utilization of cashless payment services, and cost of using the services by businesses and household. A logistic regression method of data analysis was employed to analyze data generated from respondents.

b. Population and Sample size

The research identifies parents' stakeholders as focus groups whose schooling children are largely persons with disability. The population for this study, therefore, will cover the entire households and inclusive schools identified above in the Abuja Municipal Area Council and Kuje Area Council of Federal Capital Territory, Nigeria. The study arrived at the sample size using the Taro Yamane formula.

c. Sampling Technique

It utilized a lottery method to pick two area councils from among the six in the federal capital territory. The study further employed purposive sampling, to select the area councils to cover among them. Then, it compiled a list of the household and educational stakeholders across the selected council areas. The method supports sampling in a finite population and gives equal chance to every zone.

Findings

The results reveal that parents of disabled children have differing opinions about the policy's true value given the state's limited ability to provide inclusive education. While some parents laud the system, others see it as a threat to their children's social integration and future prospects. The results also demonstrate that, based on a cultural logic that prioritizes certain physical impairments over others, there is a sense that some disabilities are more "includable" within the

nation's inclusive learning environments than others. The results also demonstrate that women typically shoulder the responsibility of providing for the health and educational requirements of a kid with a handicap since they are perceived as responsible when the child is born with a disability. In order to illuminate the difficulties that might arise when underdeveloped nations experiment with inclusive education policies due to severe resource constraints, a lack of political will, and societal hurdles that may impede implementation, this essay highlights the experiences of parents.

Conclusion and Policy Recommendations

The purpose of this study is to examine how parents of children with disabilities view and interact with inclusive education in Abuja, Nigeria. According to a thorough analysis of the body of literature and empirical studies on inclusive education, the Nigerian government has proven its commitment to establishing accessible education for everyone by ratifying a number of international legal and policy frameworks, conventions, declarations, frameworks of actions, and forums. Findings indicate that Nigeria's inclusion education policy has not been properly implemented, though.

It takes more than a single event or isolated initiative to achieve inclusive education. Enhancing national stability through education is a dynamic process. The fundamental education that improves natural stability must include inclusion. Instead of being treated as a distinct issue or a secondary priority, inclusion must be planned into the basic education sector. The National Open University of Nigeria (NOUN), which aims to provide lifelong, high-quality education based on social justice, equality, entrepreneurship, and national cohesion, is in keeping with this goal and vision through promoting inclusive education. As the largest open and distance learning (ODL) university in Africa, NOUN is well positioned for inclusive education. Therefore, stakeholders should focus on the initiatives that the government and donor organizations need to review in order to give the physically challenged group the attention it deserves in educational plans. Only once this is accomplished in Nigeria will the idea of education for all be pursued.

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Openness and the Development of Digital Literacy in Teacher Education through ChatGPT-Generated Lesson Plans

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Introduction

Since its debut in 2022, ChatGPT, as an AI generative language model, has revolutionised the education landscape with its disruptive capabilities. While it has the potential to enhance and supplement educational practices in various ways, it also has its potential downside and challenges, such as ethical concerns, potential biases and dependence on technology. Different authors (e.g. Kasneci, Seßler, et al., 2023; Mhlanga, 2023) have written about the potential and threats AI and tools such as ChatGPT hold for education. Although predictions of how generative AI will impact society, specifically education, have been made, it is already clear that it will profoundly impact teacher education. Possible changes lie in more contextualised teaching resources and personalised learning, simulations of classroom situations and the development of GPT-generated lesson plans. In today's digital age, universities and schools should embrace technological advancements rather than resist them. Incorporating technology into educational projects can provide inventive and meaningful ways to achieve learning outcomes. Therefore, teacher educators must rethink their teaching methods and explore innovative ways to integrate technology into the learning process to thrive in the digital world (Viljoen, 2023). By making ChatGPT (and similar language models such as Bard and YouChat) more accessible and understandable, teachers and student teachers can use this tool to enhance efficiency, effectiveness and openness in education.

As a teacher, developing a thoughtful lesson plan is an essential part of daily teaching as it provides a roadmap, ensuring that they cover all the necessary material in a logical and organised manner. It is crucial for effective teaching and learning and ensures that the teacher communicates effectively, manages time efficiently, engages students, and provides accurate assessment and evaluation. In this regard, Saunders (2023) argues that users such as teachers may find technology tools such as ChatGPT extremely helpful when creating lessons, scenarios, and assessments. Some generative AI tools, such as ChatGPT, are free (although it prompts one to pay for its Plus version with more functions), but need access to the internet. Also, one must register and provide an email address and contact number to access ChatGPT. It also saves and keeps track of all the user's prompts. Although numerous examples of guidance on lesson plans have been available for some time (see, for example, De Leon & McClure, 2022; McClymonts, 2023), they mainly provide guidelines and not actual lessons, they are not contextualised and are not accessible to all. By leveraging its capabilities, ChatGPT has the potential to level the playing field for teachers who may not have had access to such resources, thus enabling the emancipation of education and enhancing its quality.

Although authors such as Zhai (2023) and Hong (2023) have briefly mentioned or referred to aspects of lesson planning in their research, no research focussing on GPT-generated lesson planning and the implications for teacher education could be found; therefore, this paper intends to make a contribution in this regard.

Against the above background, this research envisages to address the following question:

How can ChatGPT-generated lesson plans enhance openness and digital literacy in teacher education?

Methodology

The research will use an interpretative paradigm, focusing on human interest in the study. According to Kivunja and Kuyini (2017) and even early career researchers, find elusive to articulate, and challenging to apply in their research proposals. Adopting an ethnographic and hermeneutic methodology, the present paper draws upon our experiences as lecturers in Research Methods over many years, and upon pertinent literature to explain the meaning of research paradigm. The paper elucidates the key aspects of research paradigms that researchers should understand well to be able to address this concept adequately in their research proposals. It offers suggestions on how researchers can locate their research into a paradigm and the justification needed for paradigm choice. With the explicit purpose of helping higher degree research (HDR, a paradigm is the researcher's beliefs or worldview that navigates the research action or investigation. Within this paradigm, the research will be exploratory to explore the implications of generative technology such as ChatGPT for teacher education.

The study will employ a qualitative research approach to address the research question. Research methodology provides a systematic framework by implementing logical steps that facilitate understanding the scientific inquiry product and processes. This qualitative study will use an integrative literature review to synthesise recent literature on ChatGPT and teacher education, and, specifically, lesson planning within the AI context. An integrative literature review aims to provide a comprehensive and critical analysis of the existing research and identify gaps, inconsistencies, and areas for future research (Torraco, 2016). Secondly, a document analysis will be undertaken in terms of this study's aim. ChatGPT-generated lesson plans on different levels and subject areas, and further prompts related to these plans are envisaged to be used for this. Glden, (2020) defines document analysis as the process of interpreting documents to give voice and meaning to a specific topic.

The trustworthiness of the qualitative data as well as ethical considerations will be covered in the research.

Conclusion

The purpose of this paper will be to explore how ChatGPT can assist with lesson planning and, in doing this, contribute to openness and the development of digital literacy in teacher education to prepare teachers and learners for the reality they are faced with in the workplace.

The study's findings should indicate to what extent generative language models such as ChatGPT can provide materials and support mechanisms, for instance, lesson plans to teachers and student teachers. In the past, these might have been available to those in privileged contexts or who could afford to pay for such materials, services and training. ChatGPT has the potential to promote educational equity by providing all teachers with equal access to its resources. Additionally, the extent to which digital literacy can be developed in this process, will be explored. It is agreed with Tang and Chaw (2016) that digital literacy for learning is more than

just knowing how to operate technology but also having the right information management and critical thinking skills. If ChatGPT is used by student teachers and teachers to evaluate and critique existing lessons, they might be equipped with the skills they need to succeed in the technology-driven world. These skills will assist them in focusing on applying knowledge, creating new meanings from existing knowledge, and developing skills relevant to the 21st century, such as critical thinking and problem-solving. However, to unleash their full potential for education, it is crucial to approach these models with caution and critically evaluate their limitations and potential biases. These will also be addressed in the proposed research.

It is believed that the contribution of this research to the body of knowledge will be to share the implications the implementation of ChatGPT-Generated Lesson Plans might have on openness, digital literacies as well as teacher education in general.

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Exploring Student Perceptions of HyFlex Course Design: Benefits and Barriers

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Introduction

Faculty from a rural, midwestern university with a history of online learning innovation (Edge et al., 2022) were invited to participate in an interdisciplinary Faculty Learning Community (FLC) of HyFlex Course instruction. A hybrid flexible, or HyFlex, course format offers learners at least two out of the three options to participate — in-person, synchronously online, and asynchronously online. Seven faculty members participated in an FLC implementing a HyFlex teaching model that allowed students to choose the learning modes (in-person, synchronous online, and asynchronous online) that fit their availability, ability to get to campus, and learning preferences. At the end of each course, the FLC members collected survey data designed to capture the perceptions and experiences of undergraduate and graduate students who participated in HyFlex courses. This paper shares student perceptions of the benefits and barriers experienced while participating in a HyFlex course.

Conceptual and Theoretical Framework

Andragogy

Andragogy, generally defined as the scholarly approach to the learning of adults, was originally coined by Alexander Kapp in 1833 and later developed into a theory of adult education by Malcolm Knowles (Knowles, Elwood, & Swanson, 2005). Andragogy includes five guiding principles: 1) self-concept – an adult learner views him/herself as a self-directed human; 2) adult learner experience – an adult learner accumulates experiences which becomes a resource for future learning; 3) readiness to learn – an adult learner's readiness to learn is oriented toward the development of skills related to social roles; 4) orientation to learning – an adult learner seeks knowledge for immediate application to a problem-centered issue; 5) motivation to learn – an adult learner is intrinsically motivated.

Research Methods

The purpose of this mixed methods study was to explore the initial perceptions and experiences of students who participated in HyFlex learning. IRB approval was obtained from the mid-western United States public university where the study took place. Student perceptions were gathered through an online Google Forms survey. For the purpose of this paper, data analysis will focus on the student participants' perception of the the benefits and barriers to learning through Hyflex design.

A convenience sample included students in the courses being taught by FLC faculty during the winter 2023 semester. Students were provided with a brief introduction to the study and asked to access a survey link if they consented to participation. Data collection was conducted in April through June of 2023.

A descriptive approach was used to analyze qualitative data collected from two of the extended response questions which sought to understand the benefits and barriers of participating in a HyFlex course. Phenomenological methods (Creswell, 2013; Giorgi, 2009; Moustakas, 1994) were used for analyzing qualitative data. The researchers read through the collective data to get a sense of the whole (Giorgi, 2009). In FLC Zoom meetings, they noted significant statements and key words participants used to communicate their lived experiences and making notes in a Google document. The aim during this early phase was to gather an initial understanding of the essence of student experiences in their HyFlex course, as expressed by participants and to recognize themes common among participants to determine meaning units (Giorgi, 2009). For two open-ended questions, textural descriptions of what participants explained happened were developed. Next, they analyzed how participants described their experiences and finally, the researchers incorporated participant descriptions into essence statements.

Results of the Research

Student Perceptions

Below, we provide an essence statement for each open-ended question to describe student perceptions and experiences with HyFlex learning.

Benefits of HyFlex. In response to the open-ended question, *What do you perceive to be the benefits of using a HyFlex course design?* three themes emerged. These themes included (a) increased flexibility, (b) inclusivity, and (c) accessibility.

Flexibility. Participants shared that the HyFlex course design provided the opportunity to choose a modality that works best in regards to their individual life circumstances. The circumstances shared included but were not limited to health and well-being, scheduling conflicts, family obligations, a personal learning styles. A participant shared, "It allows more people to engage in the ways they prefer. It also allows for flexibility in terms of illness and other reasons for missing an in person session."

Inclusivity. In regard to the theme inclusivity, the HyFlex course design provided opportunity for students who might be able to engage in a course offered traditionally on campus, access

through the additional delivery modalities. A participant succinctly stated, "It is the most applicable to the widest audience of students."

Accessibility. The HyFlex learning model allowed students access to the content, their peers, and their instructor in ways that worked for them. Students felt that regardless of which modality they chose, their individual learning was prioritized through choice. A participant shared, "Every student learns differently and allowing them to choose their modality can help them learn more effectively in a way that aligns with their priorities."

Readiness/Accountability. Under the HyFlex learning model, students had the freedom to select the instructional mode that best suited their individual learning styles. However, when considering student perspectives on the challenges associated with HyFlex as a teaching approach, student readiness and accountability emerged as crucial factors affecting its success. One participant expressed concerns that students might exploit HyFlex as an excuse to skip attending in-person classes and subsequently neglect keeping up with their assignments. Another student highlighted the importance of perseverance in order to effectively stay on track with the course requirements. Additionally, students may encounter difficulties finding a balance within the demands of the HyFlex learning modality, as it brings forth complexities related to understanding personal learning styles. The transition to the increased flexibility allowed in the HyFlex learning environment can present challenges for students who may not be adequately prepared for a high level of autonomy. Students who are unprepared to assess their learning style within the HyFlex environment may struggle to effectively utilize the available modalities and fully benefit from the flexibility offered. One participant shared the following perception, "On the student side it could interrupt their normal routines and actually cause negative impacts to learning. If you attend a class the same way each time that creates a pattern in how you do your work."

Technology Accessibility. The HyFlex learning model necessitated students to utilize technology in order to participate in the various instructional modes available. This placed a significant emphasis on students' competence in navigating the digital realm, which entailed proficiency in technical aptitude, and critical thinking. A participant shared, "Not all students will have the technology skills to use HyFlex comfortably, there is added work placed on the teacher to create learning experiences that are effective both synchronously and asynchronously".

Lack of Personal Connection. Positive student relationships play a crucial role in their academic success; when students feel supported and connected to their teachers and peers, it creates an environment conducive to learning and personal growth. Participants shared their perceptions in response to the barriers of a HyFlex learning environment. One participant shared, "The biggest potential barrier is that people may have a harder time reaching out to others in the class or the professor. Often if people are struggling, they can use the relationships they build to get help, but if people are switching back and forth between online and in person, that would be more difficult".

Discussion

In a narrative framework, repetition emphasizes and can signal patterns and relationships, as well as divergences, between individual participant's perceptions of their experiences (Bletzer,

2015). Word clouds have been used in survey research to communicate the relationship between mathematical proportions and a holistic perception (Ahearn, 2014; Bletzer, 2015; Cameron-Standerford et al., 2020). Participants' lived experiences were communicated in words, quantified by the researchers, and then qualitatively displayed as a means of representing the collective the essence of students' perceptions of HyFlex learning (Giorgi, 2009).

Barriers to HyFlex

Participants highlighted the significance of student readiness and accountability, technology accessibility, and personal connection as important factors in the HyFlex course. To improve the effectiveness of the HyFlex learning model, it is essential to address these barriers by promoting student readiness, providing technology support, and fostering personal connection. By addressing these barriers, instructors can create an inclusive and engaging learning environment that maximizes the benefits of the HyFlex approach (Beatty, 2019).

Benefits as Barriers

In exploring the six themes that emerged across the two research questions, it is notable that although flexibility was recognized by students as a benefit, others also recognized flexibility as a potential barrier. In the following participant response, the benefit of flexibility is embedded within barrier of readiness/accountability.

The results of this research indicate that students felt that the options that HyFlex afforded them with a sense of control over their learning which directly ties into the adult learning theory (Knowles, Elwood, & Swanson, 2005). When students have a sense of autonomy and competence, their ability to make effective learning decisions is heightened (Bockorny, et al., 2023). And, yet if students are still developing their autonomy and accountability as learners, the ability to make productive and valuable decisions could be negatively impacted by the multitude of choices offered in a HyFlex learning environment (Kirschner, Sweller, & Clark, 2006).

Conclusion

Preliminary data analysis supports the use of HyFlex learning to support student learning. However, more research is needed to determine how designing and implementing HyFlex courses impacts the other stakeholders involved. The perspectives of faculty, course designers, instructional support personnel, and technological support personnel are needed to determine the cost-benefit of offering HyFlex.

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Model of communication profiles of Spanish-speaking university students through a typology of academic writing analyzed

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The work follows on from a previous identification of a lack of student communication profiles in the current literature, particularly in relation to academic writing in Spanish at university level. The profiles constructing has been verified based on the weighting of a previous typology of homework analyzed (n=5) through 11 variables, updated and applied per student case (n=101), having as axis the differentiation of the conceptions of dominant and alternative communication. By including non-submission and plagiarism, which predominance per case constituted one first irregular profile that was reserved, an updated homework typology was obtained (n=8). A two-stage cluster analysis was carried out in order to weigh the combination of said typology per regular student case in a continuous assessment (n=4) context. Two clusters emerged; two profiles were constituted, and the pre-identified profile of irregular students was added. Finally, three predominant student communication profiles were constructed, one expresses alternativity and two express dominance in situated communicational sociocultural terms. Said construction is discussed according with its theoretical coherence in the context of field of Communication Theory, and as well as considering other student profiles identified in the literature, based mainly on variables related with the psychological performance, whose inclusion delineates future work.

A Framework for the Integration of Information and Communication Technology in multigrade classrooms

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Technology offers pedagogical affordances that can transform teaching and learning in multigrade schools and reduce the burden of teaching in these schools. This article presents the perspectives of multigrade teachers on their knowledge and use of Information and Communication Technology (ICT) in teaching and learning in multigrade schools in South Africa. The study adopted the Information Communication Technologies - Technological Pedagogical Content Knowledge (ICT-TPCK) model to explore teachers' understanding of and knowledge about ICT and the use of ICT in the multigrade context. The research specifically aims to answer the following question: What knowledge do multigrade teachers have about ICT and its use in teaching in multigrade schools.? In this mixed-methods study, convergent parallel design was used. Semi-structured interviews and questionnaires were used as data sources. Descriptive analysis was used to analyse data. The quantitative data showed that multigrade teachers use technology regularly, but that is limited to cell phone use. In general multigrade teachers have minimal knowledge of ICT use in teaching. It is also difficult to incorporate technology into their teaching because of their context, which presents issues including a lack of basic infrastructure and remoteness that result in professional isolation. This study recommends that teachers be trained on ICT usage and given the necessary support to function effectively in their multigrade context. For teachers to be digitally connected, they need to use technology to transform their teaching and create new opportunities for learning for their learners. Therefore, schools need to encourage the development of ICT skills in their teachers.

Global Interfaith Education partnerships in Africa, India and the USA

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In many parts of the world, but particularly in Africa and South Asia, fundamentalist currents in Christianity, Hinduism, and Islam present a serious challenge to the Western scientific tradition and often presume a conflict between Science and Religion. For this reason, Global Ministries University has undertaken the development of a graduate educational program in Religion and Science for students in India and Africa. Drawing upon the recent developments in theology and environmental science represented by the Laudato Si movement and the United Nations Faith for Earth, Global Ministries University is partnering with the Institute for Science and Religion in Cochin, India, and the Tangaza University Institute for Interreligious Dialogue and Islamic Studies in Nairobi, Kenya to train religious and educational leaders in a holistic and interfaith understanding that all forms of life on earth are dependent on each other for a sustainable civilization. Each of our four presenters will share strategies for overcoming the divide between Religion and Science regarding the environmental crisis.

Gerald Grudzen

Food and housing insecurity among ODeL students in South Africa: Access and social justice

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Introduction

While food insecurity on the African continent and among South African university students specifically has been well documented as a perennial issue, the impact of Covid on livelihoods has yet to be fully determined. Furthermore, while the food insecurity among university students has been documented in other countries, there is little research on the matter in South Africa. It is therefore important to determine the status of food insecurity is in the sector currently to ascertain the impact of the past few years on students in the sector.

The aim of this study is to determine the prevalence of food insecurity among students at an Open Distance Learning Institution in South Africa.

In addition to the aim described above, the study has a number of objectives, namely,

- To determine the level of food insecurity among students.
- To conduct a comparative analysis between genders on the above variables

Research questions

- What is the level of food insecurity among students?
- Is there a significant difference in food insecurity between genders?

Literature review

Food security is commonly understood as having sufficient and nutritious food to live a healthy active life as well as a basic need and is enshrined in the South African constitution (Waidler & Devereux, 2019). Food insecurity is a concern in most developing countries with an estimated one out of four people report being undernourished (Grimaccia & Naccarato, 2019). In South Africa, a social grant system was implemented to improve food security with mixed success where levels of malnutrition have remained high in poor households despite many households receiving grants (*Ibid*). Globally, food insecurity is higher amongst women with about 45.3% of women showing at least one symptom of food insecurity. A 2019 study conducted by Statistics South Africa showed that almost 20% of South African households had inadequate or severely inadequate access to food in 2017 with households headed by black Africans and Coloured communities most likely to experience food insecurity (StatsSA, 2022). It is assumed that the chain of events set off by the COVID19 pandemic pushed many households into food insecurity, as a result of shocks to household incomes from the lockdown policies that hindered economic activity (Arndt et al., 2020).

Student food insecurity

Food challenges are prevalent at higher education institutions across South Africa, however, it is an issue that has been under-researched in relation to student success (Dominguez-Whitehead, 2017). Students who experience a lack of sufficient food may consume poor, more affordable diets that lack nutritious food which are higher in energy density but are lower in nutrients (Dominguez-Whitehead, 2017; Syaza et al., 2021). The rise in tuition fees, insufficient financial aid and high living costs are seen as major contributors to student experiences of food insecurity (Syaza et al., 2021). Food insecurity is associated with worse academic outcomes among university students such as lower class attendance and lower academic performance among other indicators of performance (Kent et al., 2022; Moya et al., 2022). Indicators to identify students who are likely to be food insecure include receiving financial aid, receiving food assistance, possessing few financial resources or being financially independent with no family support (Moya et al., 2022).

Method

This study adopted a quasi-experimental design where naturally occurring groups in society are used as the unit of analysis to investigate the phenomena under study.

Population and sample

The populations for this study are all students at the institution under study who currently work or study at the institution.

The sampling strategy for this study is a census sampling and aims to achieve a sample of 10% of the total population.

Data collection

Data collection was conducted online using anonymous surveys distributed to student email addresses. The instruments used in this study are the General Demographics survey, a self-developed instrument that collects key demographic data such as race, gender, sexual orientation, household income, source of study funds, field of study or specialisation, employment status and years of experience for those who are economically active. The second instrument is the Food Insecurity Experience Survey (FIES) which measures the degree of food insecurity among individuals.

FIES

The Food Insecurity Experience Scale (FIES) is an eight item dichotomous scale that measures food insecurity at the individual level and has been validated in 151 countries and has been validated in Sub-Saharan Africa (Wambogo et al., 2018). The FIES is the first time that the

same instrument and survey methodology has been used in multiple countries (Grimaccia & Naccarato, 2019).

The FIES asks eight short questions aimed at adult individuals which aim to assess the constraints on their ability to obtain adequate food (Grimaccia & Naccarato, 2019; Wambogo et al., 2018). Item responses are a simple yes or no response to simplify analyses and create the opportunity for cross national comparisons using the same reference period (12 months). Scores range from 0 (no symptoms of food insecurity) to 8 (all symptoms of food insecurity).

Data analysis

Frequency analysis was used to assess the prevalence of food and insecurity using the FIES and logistic regression was used to determine predictors of food insecurity.

Results

The final sample that met the criteria for analysis set by the guidelines for using the FIES was $n=7\,464$ from a total response set of $n=11\,543$. The total population for the study was 325 000 giving a response rate of 2.3%. While low, the response rate is sufficient for the purposes of generalization given the actual size of the sample which is well over the 100 cases recommended for inferential research.

Demographics

The majority of respondents were female ($n=5670$) with males representing 23% ($n=1705$). The distribution of gender in the sample closely resembles that of the institution under study which has a 70:30 female to male ratio. Approximately 61% ($n=4\,573$) of respondents were first generation students and 12% ($n=896$) were members of the LGBTI+ community. The majority (26%, $n=1\,970$) of respondents were unemployed but still engaged in job seeking, followed by 21% ($n=1\,541$) who were unemployed but not engaged in job seeking, followed by 20% ($n=1\,485$) who were working full time and 14% ($n=1028$) who were studying full time. The remainder were engaged in various forms of employment and study. The majority (43%, $n=3\,214$) indicated that they were dependent on some form of government grant as their main income followed by 26% ($n=1\,967$) who relied on salaries or wages, 10% ($n=749$) were reliant on their parents and 12% ($n=920$) had no form of income. In terms of household income, 40% ($n=2810$) earned between R0-R1 200 per month which equates to a maximum dollar income of \$63.

Food insecurity prevalence rates

The findings reported in this section are preliminary findings are subject to further analysis. Table 1 below provides the frequency counts of the number of respondents categorised based on their raw scores which are calculated by using the sum of their answers to each of the eight items on the FIES.

Only 27.9% (n=2084) of respondents were food secure and mildly food insecure (score of 1 to 4). While those who were moderately food insecure constituted 16.7% (n=1 250) of the sample (score of 5 to 6) and those with severe food insecurity constituted 55% (n= 4 130).

Further analyses was conducted to determine whether there were any significant differences in gender in food insecurity levels. There was a significant difference in the levels of food insecurity with females (M= 5.74, SD=2.659) reporting higher levels of food insecurity than males (M=5.44, SD=2.880) $t(7373) = 3.951, p = <.001$.

Implications for ODeL institutions

As mentioned earlier in this outline, there is substantive research that links access to basic needs to student success. Student hunger in particular has a significant impact on performance as it affects concentration and memory. In addition, a substantial sample in this study indicated that while unemployed, they continue to engage in job seeking which draws away time for studies and may disrupt studies as a priority. Food is a fundamental right and a necessity for survival. As reported the majority of respondents in this study rely on government or study grants as their main source of income. While this income may be intended for use on study materials crucial to student success, it is likely that these study grants are being repurposed for providing food in the household resulting in these students engaging in their studies without the necessary resources. Arguably access to higher education without basic needs met, is no access at all as the barriers that these students face may prove to be insurmountable leading to attrition and poor performance.

Open Flexible and Distance Learning institutions face a unique challenge when it comes to addressing food insecurity due to the nature of these institutions. Students are geographically dispersed and are often enrolled in large numbers. The food programmes implemented in brick and mortar institutions are simply not viable within these models as the infrastructure required is large and costly. Yet, the issue simply cannot be ignored. In South Africa there is the National Student Financial Aid Scheme (NSFAS) which aims to provide students with the financial support they need to successfully complete their studies. However, DE students are funded at lower costs compared to the contact counterparts under the assumption that they do not require housing and food costs. The institution under study has over 100 000 NSFAS beneficiaries who rely on the grant as their primary income. Given the findings above greater advocacy for food grants for DE students is a necessary first step. Furthermore, the exploration of public/private partnerships to address the issue of DE student hunger should be a further priority. These are simply broad suggestions of starting points for ODeL institutions to begin to address the issue of student hunger.

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Step up your game! Exploring the use of Mathematics apps as gamification learning support for Dyscalculia-symptomatic ODeL students in Namibia

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Although several studies have been conducted on learning disabilities, very few studies pertain to Dyscalculia, even more so in the field of gamification as learning support for ODeL struggling to master mathematics. One of the prominent, and often under-researched mathematics learning disability is Dyscalculia. Dyscalculia is characterized as having poor number sense, poor number visualization and poor performance in mathematics in general. More so, every so often students who struggle with Mathematics are not even aware of this mathematics learning disability and sadly, this problem is exacerbated by the lack of appropriate learning support. Therefore, this qualitative, desktop study will explore the use of mathematics mobile applications as gamification learning support for ODL students who are Dyscalculia-symptomatic (they display symptoms of Dyscalculia but are not formally tested or clinically diagnosed by a professional). The researcher aims to compare the popularity ranking and affordances of the top five (5) mathematics mobile applications as learning support for ODL Dyscalculia-symptomatic students in Namibia. The results of the study indicate that there is a variety of Mathematics applications (maths apps) available, however given the unique nature of Dyscalculia, some students may opt for using more than one application to customise their learning experiences. Gamification, and the use thereof as learning support tools in mathematics for ODeL students is an under-researched area, therefore the researcher suggest that more empirical research needs to be conducted, particularly in the African context.

Educational Inclusion of Nigerian Women in the Informal Sector for Human Capital and Economic Empowerment using m-Learn: A Proposed Model

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Nigeria, the most populous country in West Africa, derives more than 90% of its income from the downstream industry. However, because of the residents' low levels of education, particularly among women, using the nation's human capital for economic growth has proven difficult. Sixty-eight percent of people in Nigeria (133 million people) are multidimensionally poor according to NBS (2022), even while 63% of the population as of 2012 lives below the international poverty threshold of \$1.25 a day. According to the 2006 National Census, 70% of Nigerian women reside in rural areas, which prevents them from accessing formal education. Basically, they predominate in the unorganized sector. To aid in the massification of education for economic growth, the National Open institution of Nigeria (NOUN), the biggest open and remote learning institution in West Africa, was founded. In light of this, this article suggested an Open and Distance Learning (ODL) strategy that prioritizes inclusive education for Nigerian Market Women utilizing two ODL tools: m-Learning and NOUNFM. Both an empirical study on

the topic and a staff interview with NOUNFM were used. An increase in the amount of money and wealth generated by women, as well as a rise in literacy levels, are projected transformative outcomes with NOUN certification for girls and market women in semi-skill development and job creation courses at the proposed NOUN Special Study Centre for Women in Nigeria for sustainable literacy.

The space of the first times, and where you can do anything, at the UNED in Costa Rica

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In 2024, the UNED Costa Rica Fabrication Lab will be 10 years old. But more than just existing, it has been a space for creation, growth, experimentation, diversification and above all, firsts for the University. The first utility model, the first sanitary registration of a biomedical equipment and material of a public university, international and national recognitions that had never been obtained before, some of them not even in Latin America.

It is also a clear example of how openness and flexibility in university instances achieve that interdisciplinarity, integration and co-creation of which so much is said and which brought so many benefits during the pandemic. What have been the characteristics that have made this space what it is today? How has it been maintained in a distance university? How has the management of talent, innovation and resources been carried out?

Approaching Physics through Ballet and Virtual Reality

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This work is framed in axis 3, called “3. The Futures of Quality Open, Flexible and Distance Learning Models and Technologies”, specifically in Gamification. In this document, the complete experience of work around the creation of an Open Educational Resource (OER) of the Universidad Estatal a Distancia (UNED) called “The Physics of Ballet”, which was developed jointly between the Chair of Physics and the Kä Träre Manufacturing Laboratory, is described. Both the UNED’s creation objective, as well as the Sustainable Development Goals and the UNESCO Recommendations on OER, underpin the development of resources such as this one. “The Physics of Ballet” uses ballet as a way to approach important concepts of this discipline in an innovative way, using technology and, specifically, gamification. This is how a collaborative project was born to work on an educational material. In this project we worked with Physics and Ballet concepts, using a 360° camera, Virtual Reality technologies, different software and a lot of inventiveness of the participants. Faithful to the idea of reaching all the possible population and that the material be useful for those who require it, we made it possible for the students who are in the respective physics course, to receive a virtual reality headset together with their study materials. We collected information from the first group of users in a regular course at the UNED. Although it was not possible to have the answers of the entire population, more

than 60% of them did send their appreciations and this data was analyzed. From the student's perception, it was detected that the material is positively valued in its low difficulty to use, that it contributes to the understanding of the contents of Physics and contributes to the motivation to study both areas: Physics and Ballet.

It is possible to obtain different conclusions from this project, some related to technology, others to the student population and even some of the administrative processes necessary to implement this idea, but in this case priority is given to the value of the integration of different areas of knowledge for the same purpose, the great strength acquired by the resources that are worked in an interdisciplinary way and the richness of Open Educational Resources for distance education.

Bimodal learning: a way to adapt to students' autonomy?

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The COVID-19 pandemic has necessitated the adoption of distance learning in education systems worldwide. This study explores factors associated with academic success in online learning, with a specific focus on learners' autonomy. The research investigates whether highly autonomous students prefer online learning in a post-secondary program, using a sample of veterinarian students in France. The study employs regression analyses to explore the relationship between students' preferences for different learning methods and their academic year. The findings reveal that as students progress in their academic journey, their preference for face-to-face diminishes in favor of bimodal training. This suggests that even highly autonomous learners benefit from a progression toward increased autonomy. The study highlights the importance of incorporating bimodal teaching in graduate training programs to cater to the preferences and needs of highly autonomous students. These findings contribute to the existing literature on distance learning preferences and offer insights for educational institutions in designing effective online learning programs.

Introduction

The COVID-19 pandemic has caused a profound disruption in education systems worldwide, compelling institutions to rapidly transition to distance learning as means to ensure the continuity of post-secondary education. This drastic rupture has brought a plethora of research regarding which factors could be positively associated with learners' academic success. While some studies analyze the impact of institutional variables (e.g., the platform used to dispense the curriculum) (Albashtawi and Bataineh, 2020), a large corpus of the literature focus on individual variables (e.g., age of the learner, sex, motivation, etc.) (Stoessel and al., 2015) that can be associated with online academic success.

Learners' autonomy has been frequently presented as a cornerstone personal variable to explain the propensity of students to prefer online learning (Octaberlina and Afif, 2021; Baru and al., 2020). These results are coherent with Moore's (1993) transactional distance theory. Hence, as the degree of organization and clarity within the educational materials and learning tasks (the structure) increase, fewer interactions and communications are available between the learner and the instructor (the dialogue) which, in turn, put pressure on the learner's ability to take control of their own learning process (autonomy). In other words, distance learning - by design - offers an environment with a certain level of complexity of the pedagogical content presented to the student, while also reducing the number of interactions with the instructor.

While learner's autonomy is certainly a predisposition to achieve academic success in an online curriculum (Moore, 2013), there is a gap in the literature about whether highly autonomous students prefer online learning in a post-secondary program. Indeed, the few studies that highlighted autonomy as a variable to explain the preference of a student to distance learning often used a sample composed of participants from diverse fields (see Hurd and al., 2001), have

too small a sample to infer statistical analysis (see Eberle and Hobrecht, 2021), or obtain a sample of students from only one institution (Neroni and al., 2019). Hence, the aim of this exploratory study is to document the preference for distance learning of bimodal courses for veterinarian students in France. This population has been specifically chosen due to the contingency of their program; students that are enrolled must pass different tests to demonstrate their competency to complete the program.

Literature Review

Bimodal teaching proposes a classroom where everyone participates in a single synchronous session; while the professor and a portion of students participate in person, another portion of the students are at a distance, via a platform (e.g., Zoom, Google Meet, Teams, etc.). According to the literature review, three factors have an influence on learners' autonomy in distance learning: sociodemographics, technology and the pedagogical method employed in delivering the subject.

First, multiple studies show sociodemographic variables to correlate with learner autonomy in distance learning. For example, Ruffing et al. (2015) showed that women tend to be better at managing their time and effort, they use simple cognitive strategies more often and have more contact with others compared to their counterpart, whereas men, on the other hand, scored higher on academic thinking than women. This result is coherent with the conclusion of Kuo et al. (2013), that also found that female students score higher on learner-learner interaction than male students. However, these results do not make a consensus among scholars. Hence, Fatiadou et al. (2017), suggest that women may have more difficulties in distance learning as they struggle to balance their multiple roles as mothers, wives, working women and students. This is correlated with results suggesting that women may find a common time for online group work difficult due to juggling schoolwork with six other responsibilities including full-time work, marriage, and parenting (Cragg et al., (2005) cited by West (2009)).

Second, technology has been a factor highlighted by scholars to influence learners' propensity to be autonomous in their parkours. Geng et al. (2019) found that students who are more self-directed and with active attitudes toward technology-based products are more motivated in adopting online learning strategies and achieving their learning goals. This further implies that web-based learning technology can be a complementary extension of traditional classroom teaching for inducing self-directed learning effects which in return, can influence learning motivation. Technological issues are also a factor. Mendoza et al. (2023) indicate that slow and unstable internet connections are the main barrier for students in online learning. Similarly, Eberle and Hobrecht (2021) also found internet connection to be a severe problem for students, resulting in dissatisfaction with online learning as it restricts access to learning opportunities, social interaction, and competence. Cunha, et al. (2023) state that the technical difficulty of the online exercises can interfere with the performance of the students, that is, very complex exercises can take away the focus that is the application of the content in the resolution of the problems.

Third, the pedagogical method, either bimodal courses or a full-on online curriculum, seems to have an influence on learners' motivation. As indicated by Ta'amneh et al. (2021), students

consider virtual learning as a tool that helps them in organizing their homework, assignments, and time. In contrast, Capone and Lepore (2022) argue that while distance learning is excellent as an additional and supportive pedagogical tool, it may suffer ineffectiveness when using completely remote teaching. Pelikan et al. (2021) support this with their results adding that even though autonomous learning usually results in increased autonomy, it bears the risk of procrastination. Moreover, according to results from Gunes and Alagozlu (2021), a small rate of distance learning students showed expected autonomous behaviour. They found that students educated in a distance setting are less motivated than on-campus students. The results further showed that bimodal-learning students were more successful than distance-learning students. In addition, Geng et al. (2019) explain in their study that students in bimodal-learning groups achieve significantly higher social presence than students in face-to-face teaching settings. This correlates with research by Snodin (2013) with his results that the students claimed to be more independent and confident as well as developing certain autonomous behaviour through bimodal learning. It provides opportunities for students to assume roles that were different from conventional face-to-face learning. Bimodal learning inspires students in facilitating collaborative learning, resolving the unbalanced power relationship in class, and providing space that leads to cognitive growth through interdependent learning. These results support Moore (2013) that explains student benefits from bimodal learning by being trained and mentored as a skillful participant in a community of learners, and from one-on-one interaction with a teacher in designing and managing their personal learning programs.

Methodology

Participants and procedures

A total of 406 veterinarian students from France have responded to an online survey available from December 2020 to January 2021. The sample comes from the only four different institutions that offer the program. The sample was predominantly female (349; 86%). A little more than half of the sample comes from a particular institution (226; 55,7%), with (159; 39,2%) for the second institution. More than half of the sample are in their first (115; 28,3%) or second (124; 30,5%) year in their program (with 100; 24,6% in their third year). The participant had the chance in their study program to experiment with face-to-face classes, online classes, and bimodal learning.

Measures

Aside from the sociodemographic section of the survey, all the instruments used in this study were arranged on a 5-point response scale (1 = Totally disagree; 5 = Totally agree).

Digital supports: The participants were asked which electronic devices (e.g., computer, laptop, mobile device, etc.) were used.

Preference for learning methods: Seven questions regarding their preference for learning methods (e.g., Attend synchronous distance-learning lectures, Attend bimodal lectures, etc.)

Factors influencing their choice for distance learning: Ten questions were asked to the participants to grade certain factors (e.g., Type of teaching, pedagogy used by the instructor, schedule, quality of the network, etc.) that influence their decision to study online.

Preference of communication method: Eleven questions were asked to the participants to grade their preference to communicate with their instructor and colleagues (e.g., in person, email, chat, social media, etc.).

Social support: Eight questions were asked to the students who (e.g., their instructor, their colleagues, their parents, etc.) they rely on to receive support for different scenarios (e.g., understand the lectures, develop learning strategies, etc.).

Learning strategy: Sixteen questions were asked to the participants about the frequency they applied certain strategies in their study (e.g., fixing learning objectives, using mental imaging, using a reflexive posture, etc.).

Results

Initial results show a preference for the teaching method according to the pedagogical intent of the course. When it comes to attending lectures, participants prefer either a face-to-face class or a synchronous distance learning class. However, the preference varies depending on the students: women prefer to attend synchronous remote lectures compared to their male counterparts (virtual classrooms) $t(404) = 2.7, p = .008$. Thus, bimodal learning seems an appropriate choice for this situation since it can please both online and offline camps. Nevertheless, when the pedagogical intention of the course is focused on practical work (e.g., group case solving), participants indicate that they would like to attend the classroom-based course. Figure 1 indicates those preferences. In both cases, students consider asynchronous distance learning courses to be the least attractive.

However, it's when regression analyses are carried out that the relationship between students' pedagogical preferences is most telling. Simple linear regression was used to test whether the academic year significantly predicted preference for attending face-to-face lectures. The overall regression was statistically significant ($R^2 = .016, F_{(1,404)} = 7.79, p = .006$). The academic year was found to significantly predict attendance at face-to-face lectures ($\beta = .143, p = .006$). The further along a student's career path, the less he or she prefers to attend face-to-face lectures.

Another linear regression was used to test whether the academic year significantly predicted preference for bimodal lectures. The overall regression was statistically significant ($R^2 = .027, F_{(1,404)} = 11.252, p < .001$). The academic year was found to be significantly predictive ($\beta = .106, p < .001$). The more advanced the student, the more they preferred to have bimodal lectures.

Simple linear regression was used to test whether grade significantly predicted their preference for the professor's presence to help them learn. The overall regression was statistically significant ($R^2 = .020, F_{(1,404)} = 8.25, p = .004$). The academic year was found to significantly predict their preference for the professor's presence to help them learn ($\beta = .142, p = .004$). The further a student progresses in their course, the less they agree that they need the presence of the professor to learn.

Discussion

The results obtained shed new but complementary light on the existing literature on distance learning. Firstly, it shows that, even for students who are already considered highly motivated, a certain amount of introspection on their learning strategies takes place during the first years of university training. Indeed, although descriptive analyses indicate that most participants prefer face-to-face courses, regression analyses show that this preference diminishes over time in favor of bimodal learning. It is possible to believe that, as learning progresses, students develop their own autonomous learning techniques. This result is supported by the linear regression linking the academic year and the participant's preference to have a teacher present in his or her academic progress. Thus, the further along the student's path, the less direct input from a teaching resource seems necessary. This result, while consistent with Moore's (1993) theory of transactional distance, nonetheless introduces an innovative element: that even for highly autonomous students, a certain amount of progression is necessary for university studies. This result complements the studies by Pelikan et al. (2021) and Snodin (2013) and indicates that a pathway is necessary, even for a population considered highly autonomous.

Conclusion

The aim of this article was to contribute to the scientific literature on the distance learning preferences of highly autonomous learners (i.e., veterinary science students). The statistical analyses carried out in this study show that even for this population, Moore's (1993) theory of transactional distance holds true: students need a certain amount of learning to fully appreciate bimodal training. So, following this trajectory, it's pertinent to ask whether university educational institutions shouldn't rethink their graduate training programs to include (almost exclusively) bimodal teaching.

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The New Teacher's Pet? Enhancing Online Learning Engagement through a Chatbot-Enabled Self-Regulated Learning Approach

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Background

Online learning is evolving rapidly, fueled by the excitement over generative AI tools, such as Large Language Model (LLM) chatbots like ChatGPT, and their potential to improve the learning experience, especially in fully online learning contexts. One of the most common challenges experienced in the design and implementation of online learning is encouraging self-regulated learning behaviors so that students can maintain engagement in the learning experience. Our project targets this challenge by combining AI, learning science theory, and instructional design practices.

In this study, we developed and tested an AI chatbot tool in a large undergraduate course within the University of Arizona's College of Medicine. Students interacted with the tool in regular intervals throughout the course by engaging in self-regulation activities such as planning and reflection through chatbot dialogue. We analyzed this intervention as an indicator of cognitive engagement and assessed its impact on student sentiment and course outcomes. Cognitive learner engagement is especially critical to student success and outcomes achievement, and it is a form of engagement that teachers struggle to implement. In the proposed presentation, we share our process of chatbot tool development and its integration into the learning environment.

Supporting Literature & Research Gap

Self-regulated learning behaviors are indicators of cognitive engagement, which falls within the larger conceptual umbrella of learner engagement. Due largely to its exploration across several fields of inquiry, the concept of learner engagement is multifaceted and complex. The result is that it is not defined consistently across fields, which prevents its uniform operationalization in empirical studies (Halverson & Graham, 2019; Martin & Borup, 2022). However, relative agreement exists that learner engagement and online learner engagement integrate cognitive, emotional, and behavioral aspects (Halverson & Graham, 2019; Martin & Borup, 2022; Pentaraki & Burkholder, 2017).

Cognitive engagement involves a student's intellectual activation in response to the lessons and activities within the course (Redmond, et al., 2018), while emotional engagement encompasses the feelings that students encounter when they interact with course content, the instructor, and their peers (Martin & Borup, 2022). Halversen and Graham (2019) argue that behavioral engagement, as it has been broadly defined in the literature, involves elements which overlap with cognitive engagement, evoking "conceptual fuzziness" (p. 156); they also posit that cognitive engagement must be present in order for any behavior which induces learner engagement to occur, thereby rendering the notion of behavioral engagement antiquated. For

this reason, we conceptualize emotional and cognitive engagement as the two main facets of learner engagement.

Halversen and Graham (2019) also distinguish engagement *facilitators* (causal factors that occur outside the construct of engagement) and engagement *indicators* (factors that occur within the larger construct of engagement). For each cognitive engagement indicator, the authors offer a set of factors which have been shown to influence the corresponding indicator by either quality or quantity. For example, factors of cognitive engagement like attention, effort, and time on task, indicate the *quantity* of cognitive engagement experienced by the learner, while factors like metacognitive strategy use, content absorption, and curiosity indicate the *quality* of cognitive engagement.

Halversen and Graham (2019) characterize instructional practices (e.g., lesson plans, learning activities, blended learning modalities) as “contextual facilitators” of engagement and student learning, claiming that these facilitators cannot be properly evaluated without “a clear set of engagement indicators to measure” (Halversen & Graham, 2019, p. 147). In this study, we examined the impact of a specific cognitive engagement facilitator, namely the use of a chatbot tool in the online classroom, on cognitive engagement indicators like the metacognitive strategies that the tool invokes in the learner.

This study applied past research on the benefits of providing students with metacognitive prompts by exploring the automation of this interaction, using chatbots informed of course specific context. Zimmerman’s (2000) self-regulated learning model was used to define “chatbot to student” prompts, with instructional design principles guiding its integration into the course design. However, no study to date has implemented this model using current AI technology for LLM chatbots. There is sparse evidence suggesting the impact of this new technology on the cognitive engagement of online learners.

Our goal was to address this knowledge gap by exploring the potential of an LLM chatbot in promoting and scaffolding self-regulated learning strategies among online students. We hypothesized that bolstering self-regulated learning strategies would increase students’ cognitive engagement, thereby improving their overall online learning experience and performance outcomes. A mixed-methods approach, including pre- and post-tests, surveys, and qualitative interviews with students and instructors, was used to answer the following research questions:

1. To what extent can self-regulated learning metacognitive activities scaffolded by a chatbot influence a student’s cognitive engagement in a course?
2. What impact do chatbot mediated self-regulated learning activities have on course grades and student feedback?
3. How do students perceive the usefulness of the chatbot in improving their learning experience and course outcomes?

Procedure

Our six-step project began with a needs assessment to understand the cognitive engagement concerns of online students in our target course. We then developed a chatbot tool, designed to promote self-regulated learning, and integrated this tool into the course design while

considering student privacy and data security. Our training curriculum guided students on how to use the chatbot effectively, followed by an intervention phase where students interacted with the chatbot during their course. We then engaged in data collection and analysis, including surveys, group interviews, course grades, and chat transcripts, to evaluate the impact of the chatbot. Finally, we integrated student perception and performance data to iteratively update the chatbot's design and integration for future courses. The proposed presentation outlines the development of the chatbot tool, including its theoretical orientation, and its implementation into the online learning environment. Following is the list of steps used in this process:

1. **Needs assessment:** Administer Online Learner Engagement Survey to determine which aspects of learner engagement are most important and most needed in a specific online course.
2. **Tool development:** Evaluate the needs assessment data, and integrate up-to-date literature, to develop a chatbot tailored to the specific needs of the surveyed students.
3. **Training curriculum:** Create implementation activities to orient instructors and students to the pedagogical tool.
4. **Intervention:** Implement the tool and training curriculum into one section of a large course. Delegate another section of the course as the control group.
5. **Data collection:** Evaluate metrics from the tool, post-course Online Learner Engagement survey, and follow up student interviews to determine the impact of the tool on learner engagement.
6. **Iterate** Based on data analysis, update the tool and run the intervention again.

Potential Impact

This project has the potential to enhance online learning experiences at the university level, not only by improving course outcomes but also by providing new opportunities for students to engage in the learning process. Our proposed solution will empower student agency, support faculty course implementation, and introduce a novel form of engagement, without marginalizing the essential human interaction components of education. By fostering cognitive engagement and self-regulated learning, we aim to provide valuable insights into the role of AI in education.

Complexities of Educational Culture for Integrated Campus and Digital Education

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Introduction

Educational culture is a complex matter that needs to be understood in the progress of educational development, regarding all forms of education and teaching. In the concept of culture, one can assume that different norms, values, attitudes, views, and relationships influence the nature of education within higher education institutions (HEI). Trang (2022) emphasizes the influence of national culture and how HEIs responded to the challenges posed by the COVID-19 pandemic on educational culture. Trang (2022) suggests that educational culture manifests through the awareness of education and the organizational structure of education within each country.

Additionally, the impact of educational culture extends to educational technology practices. Wang et al. (2008) stated that China needs to establish a new educational culture environment while enhancing the effectiveness of educational technology practices. The content of culture has become more perfect and abundant, and a new form of educational culture was formed based on the information technology and digital media “by the mutual influence and impact of educational technology practice and educational culture” (Wang et al, 2008, p. 480).

The twenty-first century demands reshaping of education systems. Rapid changes influenced by e-trends and technological advancement move universities towards digitalization. Digital transformation, like all revolutionary changes, involves adjustment (Mohamed Hashim et al., 2022). Furthermore, Fosslund and Sandvoll (2021) argue that educational leaders are responsible for educational change. Educational leaders have an immense potential to enhance academic developers’ “influence on educational change and their ability to become change agents” (Fosslund & Sandvoll, 2021, p. 1). The digitalization process presents global challenges for universities, particularly their IT infrastructure (Thoring et al., 2018). Moreover, Thoring et al. (2018) identified that lecturers’ experiences and suggestions show that improving the equipment and IT infrastructure is only secondary to the digitalization of teaching. Instead, a centralization of information, knowledge, and expertise in the field of digital teaching is required. From the lecturers’ point of view, the university’s perspective on digital teaching must change as well, overcoming baseless concerns that digitalization inevitably results in an entirely virtual university.

Targamadze (2009) suggests that educational culture should be conceptualized at five levels: societal, systemic, institutional, interpersonal, and intrapersonal, and all levels operate in their own culture and impact the implementation of the educational objective formulation. In addition, Targamadze (2009) suggests that educational objectives are implemented in a distinct educational reality associated with culture and that organizational culture can play an important role as a potential factor affecting educational processes.

To achieve the necessary transformations required for attaining optimal education where campus and digital education are integrated and combined, we must first understand the complexity of

educational culture. However, the current knowledge of educational cultures may be insufficient to fully understand the complexities of integrated campus and digital education. Following this, the purpose of this paper is to identify motivators and deterrents for traditional HEIs' development of integrated campus and digital education. The paper is guided by the following research questions (RQ):

1. How do teachers, students, and educational leaders describe the educational culture at a traditional technical university?
2. What incentives are discussed by teachers, students, and educational leaders as drivers for integrated and combined campus and digital education?

Method

Focus group discussions with teachers, students, and educational leaders of a traditional Swedish technical university were selected as the method to address the research questions. Focus groups are a preferable qualitative method to gain an in-depth understanding of a social issue primarily designed to allow participants to voice their thoughts, ideas, and opinions. (Krueger & Casey, 2014; Nyumba et al., 2018).

During 2022, five focus groups met on two occasions, each to explore a focus topic related to the papers two RQs. Two focus groups consisted of a mix of teachers and students, while three groups consisted of the educational leaders of an HEI. Participants were selected to represent different university roles, such as students, teachers, and educational leaders (Directors of Studies, Directors of First and Second Cycle Education, and Heads of educational administration). Furthermore, participants were selected to represent different disciplines, including domestic and international representatives. In total, 32 participants engaged in the two occasions of focus group interviews.

A total of 276 pages were generated from the transcriptions of the audio-recorded focus group interviews, which were analyzed using Braun & Clarke's (2006, 2019) reflexive thematic analysis. The reflexive thematic analysis focuses on describing the phenomenon being investigated using, where a researcher actively identifies patterns and connections in the data guided by the study's research question and provides potential relationships between themes (Guest et al., 2012). As such, thematic analysis focuses on an in-depth understanding of the essentials of qualitative material that goes beyond summarizing to uncover comprehensive narratives.

Result

RQ1: How do teachers, students, and educational leaders describe the educational culture at a large traditional technical university?

1. Multiple educational cultures

Participants strongly emphasized the utilization of multiple educational cultures rather than identifying a single homogeneous educational culture. Each discipline exhibits its own distinct structures and teaching approaches, contributing to the diversity of educational practices.

The influence of various teaching cultures is evident within each program, fostering a dynamic environment. The organization encourages conversations and dialogues in different forums to enable collaboration and exchange of ideas. Notably, participants highlighted the existence of polarization within the university, reflecting divergent perspectives among teachers, students, administration, and management.

2. Streamlining education

The instructional process is influenced by limited time, leading to a prioritization of doing research over educational development. Additionally, the learning design process is often influenced by the emphasis on streamlining processes and prioritizing efficiency over educational innovation. Both student-centered and teacher-centered cultures are identified. In a student-centered culture, active learning is encouraged, with teachers providing support across various activities. Conversely, the traditional teacher-centered educational culture promotes passive learning, particularly during broadcast-oriented learning activities. This contrast gives rise to divergent opinions and diverse approaches when it comes to designing courses.

3. COVID-19 as a game changer

The COVID-19 pandemic has undoubtedly been a game changer, accelerating the adoption and transformation of digital learning on an unprecedented scale. Before the pandemic, students primarily attended higher education in person, while a notable shift has taken place since the pandemic, with the integration of on-campus and online learning in a blended format on the rise. A considerable portion of the digitalization process in the past years has been built on the Emergency Remote Teaching (Hodges et al., 2020) approach, subsequently followed by adopting Blended Synchronous approaches (Raes et al., 2020). The participants were clear in their opinion that incentives related to the pandemic should no longer serve as a motivation for digitalization, and they emphasized the urgent need for clear guidance on methods and suitability of campus and digital education at the course level.

RQ2: What incentives are expressed by teachers, students, and educational leaders as drivers for integrated and combined campus and digital education?

1. Clear goals, unclear incentives

Incentives for educational development often appear disconnected from the work of teachers. While there is a clear goal for both campus and digital education and the integration of these forms, participants point out that there are few and unclear incentives for them to engage in educational development. The participants agree that the focus should be on providing exceptional integrated campus and digital education options for students, preferably through blended and hybrid teaching models. However, the incentives are inadequate to drive the necessary changes.

2. From vision to action

Teachers need to better understand why more digital education is requested and how integration between campus and digital education can be effectively implemented. Clear visions and expanded possibilities for digital education are required to advance educational development. Translating visions and broader possibilities for digital education into actionable steps that can be implemented is crucial. Teachers seek recommendations on the benefits of specific educational forms for students, with visions stemming from teachers and research teams involved in digital education. Step-by-step implementation is preferred over hasty and vague development agendas.

3. Conditions for development

Teachers vocalize concerns regarding insufficient conditions to effectively undertake course development. There is a need to provide more financial and technical support to institutions to ensure the successful implementation of these models. This will require a shift in focus from the current investment model. Teachers especially emphasize the need for guidance and support in pedagogical and technical domains, encompassing the successful implementation of blended and hybrid approaches. One evident factor is the insufficient digital competence among teachers, students, and administrative staff, which hinders their ability to fully exploit the potential and opportunities presented by modern digital education.

4. Students as drivers

The quality of courses, particularly their digital learning design, is a source of frustration for students. Integrated campus and digital courses allow students to access learning materials, participate in discussions, and engage with course content at their own pace and from any location. Integrated courses strike a balance by combining in-person interactions in a campus setting with digital components that foster active participation, collaboration, and the utilization of multimedia resources. Initially, students prioritize accessing high-quality online materials, with a specific emphasis on recordings of on-campus activities. These resources serve a crucial purpose for students who encounter scheduling conflicts between courses or are preparing for re-exams.

Discussion

This paper aims to contribute to the extensive research community regarding digital development of education by emphasizing the importance of understanding educational cultures for a deeper comprehension.

The results indicate a diverse range of cultures that influence educational development. An essential aspect of these cultures is the individual perspective, where educational development is often perceived as a personal endeavor focused on 'me and my course' rather than a collaborative effort. That said, various influences are at play, driven by streamlining and digitization, where individuals feel to be forgotten or that the organization's strives do not match their perceptions.

Hence, the systemic, institutional, interpersonal, and intrapersonal levels of educational culture (Targamadze 2009) are present in this study as they operate in their own cultures among the participants across the university.

The overarching goal of educational development is to enhance the quality of education. If the university can extract the best of all educational forms, there are still obstacles to conquer. As Fossland and Sandvoll (2021) suggest, management has the position to empower courses in the developing process. Development and change are slow processes that need time. Allocating time for development might function as an incentive for educational development. Support for teachers to move towards digital teaching and sufficient infrastructure for conducting suitable education will be a crucial element for HEIs in the future.

As students seem to be more positive regarding digital education in general, they state that more traditional campus-based teaching does not necessarily include digital elements in the way it could. Müller et al. (2018) argue that if the digitalization process is not to halt, precise rules are needed to be adapted to technological advances. Furthermore, structural, and strategic positioning is called for “if HE institutions are to act[s] as centre[s] of innovation with respect to the implementation of digital teaching and learning formats” (Müller et al, 2018, p. 1). However, there is insecurity on how to best count digital teaching towards one’s own teaching load concerning the legal framework requirements.

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Students' Teaching presence – How students organize, facilitate, and direct one-to-one online tutoring sessions

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Introduction

The Community of Inquiry (Col) framework is recognized as one of the most prominent models for analyzing online learning environments (Bozkurt & Zawacki-Richter, 2021). Initially developed by Garrison, Anderson, and Archer (2000, 2001), the Col framework offers a theoretical framework for understanding and evaluating collaborative-constructivist learning approaches, in which students actively participate in a community where meaningful critical reflection, dialogue, and inquiry take place. Students are empowered to explore complex topics, share their insights, and engage in open and respectful discussions. By emphasizing critical reflection and collaborative discourse, the Col framework creates a rich and interactive learning environment that stimulates intellectual growth and encourages the development of critical thinking skills. (Garrison, 2015; Garrison, 2017)

Central to the Col framework are three interrelated elements: Teaching presence, Social presence, and Cognitive presence, displayed in Figure 1. Teaching presence refers to the design, facilitation, and direction provided to support meaningful learning experiences. Social presence encompasses the human aspect of learning through interpersonal communication, relationship building, and affect. Cognitive presence reflects the extent to which students are able to construct and confirm meaning through sustained reflection and discourse. For each of the three elements, categories have been constructed to outline significant aspects of the elements.

Researchers have employed two validated empirical research methods to study and evaluate online learning environments within the Col framework: a survey procedure and transcript coding. The survey procedure involves administering a standardized questionnaire to gather quantitative data on participants' perceptions and experiences of a community of inquiry (Arbaugh et al., 2008; Swan et al., 2008; Stenbom, 2018). In transcript coding, elements of Teaching presence, Social presence, and Cognitive presence are systematically identified and classified in textual data (Garrison et al., 2006). The process of transcript coding using the Col is guided by a coding scheme displayed in Table 1 (Garrison et al., 2000; Garrison, 2017). The coding scheme encompasses the elements and categories of Col that are identified within the textual data, guided by the indicators and examples provided. Transcript coding enables researchers to gain detailed insights into the dialogue of a community of inquiry and inform the design of the learning experience.

In the context of the Community of Inquiry (Col) framework, Teaching presence extends beyond the conventional notion of teaching solely being the responsibility of instructors. It has been clearly defined in the seminal work for the Col framework (i.e., Anderson et al., 2001; Garrison & Arbaugh, 2007; Garrison, 2017) that as students engage in designing and organizing collaborative and personal learning experiences, taking on the role of facilitators and directors of their own learning, they contribute to Teaching presence. This is an important concept as it promotes the

development of self-efficacy, self-regulation, and metacognitive skills essential for successful learning (Garrison & Akyol, 2015). At the same time, the aspect of students expressing Teaching presence has often been forgotten in empirical studies as it is not explicitly included either in the Col coding scheme or in the Col survey (Jansson et al., 2021). This can lead to an incorrect assumption that Teaching presence is only the responsibility of instructors and does not involve students.

The purpose of this paper is to contribute to the exposition of students Teaching presence. This is done by examining how students express Teaching presence as detected by transcript coding of online tutoring sessions. The following research question guides the paper: To what degree do students design, facilitate, and direct online tutoring sessions?

Method

The research design employed in this study is centered around the method of transcript coding, which is widely recognized as one of the primary approaches to analyzing data using the Col framework. Data collection occurred within the Math Coach program; a one-to-one online tutoring initiative implemented in Sweden. The project aims to provide personalized support and guidance to K-12 students in mathematics. Teacher students aid students during Monday-Thursday evenings throughout the semesters through an online text-based chat system. The data collection period spanned the fall of 2022 and involved newly trained tutors actively participating in online tutoring sessions. By focusing on this particular context, the study aimed to capture authentic and real-world representations of Teaching presence exhibited by both tutors and students, allowing for a more comprehensive exploration of students' Teaching presence in online learning environments.

In total, 66 conversations were collected from the tutoring sessions. A message was selected as the unit of analysis as it is the smallest unit of communication that can be used to capture the dynamic nature of the tutoring sessions (Hillman, 1999; Rourke et al., 2000). The coding process involved examining the messages across the categories of Design & Organization, Facilitating Discourse, and Direct Instruction, as outlined in the Col coding scheme, Table 1. A total of 6,532 individual messages were coded for the presence or absence of students' Teaching presence. These messages comprised 3,255 student messages and 3,277 tutor messages.

The transcripts were coded by a single coder (the first author). That said, the coder has extensive expertise in applying the Col coding scheme. This high level of experience and familiarity with the coding scheme increases the likelihood of reliability and validity in the coding process. However, it is important to acknowledge that the potential for coder bias and subjectivity may exist. The research design complied with national ethical guidelines, which do not require approval from an Ethical Review Board. All participants involved in the study provided informed consent to participate in the Mathcoach program and have their tutoring sessions recorded and analyzed. The privacy and confidentiality of participants' information have been protected throughout the research process, and all data collected and analyzed have been anonymized to ensure participants' identities remain confidential.

Results

From the coding, 1,050 of the 3,255 student messages were coded as including expressions of Teaching presence. Indicators from all three categories were deemed present in students' messages and found throughout the whole tutoring session. In these messages, students took responsibility for the tutoring session as well as for their own learning.

Students' expressions of Design and organization were meant to structure the tutoring session, setting goals for what session needed to focus on, and state when the goal was reached. Students described the problem or issue, what they had not understood, what help they thought they needed, and what they had already tried prior to the session.

Students' expressions of Facilitating discourse drove the session forward and supported the student's own learning. Students asked for clarifications from the tutors in their explanations, expressed what they did not follow or understand, and asked for feedback on their calculations and solutions.

Students' expressions of Direct instructions focused the tutoring sessions on the issues at hand. Students shared knowledge of the problem, such as information from the book or teacher, and reflected on and analyzed the problem-solving, clearing up misunderstandings. Students also shared how they had reasoned to reach a solution and summarized what they had learned during the tutoring session.

Discussion

In this study, how students express Teaching presence, i.e., to what degree they design, facilitate, and direct online one-to-one tutoring sessions, have been examined. In the transcript analysis, over one-third of students' messages were coded as including expressions of Teaching presence, supporting previous research (Jansson et al., 2021) that students' Teaching presence is an important aspect to consider in online learning.

The results verify that students take responsibility for their learning by designing and organizing the tutoring sessions and stating what they need help with to ensure that the sessions focus on their specific problem (Garrison, 2015). The student and the tutor shared the responsibility of structuring the session regarding the use of the medium (use of whiteboard and sharing files) and time frame. It was also shown that the students were involved in driving the sessions forward by opening up for feedback and reflection and asking for guidance. Furthermore, students were found to share the responsibility with the tutor for clearing up misunderstandings and injecting knowledge from other sources (such as books, the teacher, etc.). These findings demonstrate that the students reflected on their knowledge, having to explain and justify their thinking and analyze solutions, thereby showing metacognitive development (Garrison & Akyol, 2015).

The expressions of Teaching presence by students can be closely intertwined with Cognitive presence (Garrison & Akyol, 2015; Garrison, 2017), resulting in instances where messages are double-coded. For instance, messages intended to structure the tutoring session may also serve as a Triggering event. Similarly, messages that involve reflection on solutions and summarization may also be coded as Resolution. Furthermore, while sharing information, seeking feedback, and clarifying misunderstandings, these messages may align with the Cognitive presence

categories of Exploration or Integration (Garrison, et al., 2001). This overlapping nature highlights the interconnectedness between Teaching presence and Cognitive presence, demonstrating how students' active engagement in the learning process encompasses both instructional and cognitive aspects within the Col framework (Garrison, 2017). Garrison and Akyol (2015) argue that the metacognitive construct may be found in the intersection of Teaching and Cognitive presence as a link between the construction of internal knowledge and collaborative learning activities. Connected to students' self-regulation of the inquiry process, participants may achieve metacognitive development by assuming Teaching presence responsibilities and understanding the inquiry process.

In this study, the collected data was only coded for the presence of students' expressions of Teaching presence. Further studies incorporating coding for all presences (i.e., including Social and Cognitive presence) and exploring the tutors' Teaching presence would contribute to a more comprehensive understanding of the impact of students' Teaching presence on online tutoring sessions. While a message as the unit of analysis can be seen as reliable and easy to use (Hillman, 1999; Rourke et al., 2000), the use of chat messages in the tutoring session opens the possibility of connected content is divided into several chat messages, possibly increasing the amount of a code.

In this paper, it has been shown that students do express Teaching presence in online one-to-one tutoring sessions, by designing, facilitating, and directing the sessions. Although, more studies that focus on the different categories and indicators for Teaching presence with the perspective of students' expressions, as well as the effect on other elements, are needed.

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MetaPuma: A Dialog-based Approach to Enhance Metacognition Using Artificial Intelligence

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Metacognition is the action of knowing our cognitive processes, monitoring, and regulating them. Artificial intelligence systems can be used to enhance human skills, in this case, to improve how students plan, monitor, and assess their own learning. Based on this assumption, we present MetaPuma, a chatbot with a structured flow of dialogue based on the theoretical foundations of metacognition that poses open-ended questions to the student and provides hints and feedback. MetaPuma was trained with questions and responses about the most common administrative procedures for undergraduate students in the blended and distance learning systems at the National Autonomous University of Mexico (UNAM). This chatbot will be used in a randomized controlled trial (RCT) with freshmen Pedagogy students in the blended ($N = 50$) and distance ($N = 245$) learning systems to test if its use improves their metacognitive skills. A pre-test post-test approach will be used with the Metacognitive Awareness Inventory (MAI). In this paper we present the chatbot and describe its future validation plans.

Student Empowerment in Education Using Fractal and Artificial Intelligence

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Educational models that are currently favored are those that point towards active learning participation, where students are involved in decision making about learning and the learning process itself. In many cases, this fact is reflected in strategies that push for educational co-creation, whether of syllabi, assesment, or even study plans. This project seeks to involve undergraduate students into the creation of educational proposals that incorporate an interdisciplinary vision that supports the personal and collective learning process. We proposed an online methodology based on Fractal and text-to-image artificial intelligence. Fractal is an educational model based on four elements (heutagogy, openness, student-centered teaching, and concept based curriculum) that enhances self-determined learning paths, creating cognitive concept maps. The key concepts selected collaboratively from cognitive concept maps are used to generate prompts for Craiyon, a text-to-image artificial intelligence tool, allowing students to capture an interdisciplinary perspective of the future of their professional life and the challenges that it means in terms of their education. This is an educational proposal that seeks to involve

students in the reflection and future challenges of their professional life, however, it is also an online approach for the co-design of collaborative and interdisciplinary projects.

Postgraduate student involvement in the development of sustainable Open Education Resources

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Introduction

Open education resources (OER), which are free, technology-enabled resources, open for use and adaption, have many benefits for higher education. Benefits that have been widely documented are the ability to expand access, cut costs, and improve the quality of teaching and learning. However, the question remains how OER can be developed sustainably to support both teaching and learning? The role of OER has evolved since its first use at a UNESCO workshop in 2002. The first generation of OER is characterized by lecturers placing their notes online for free use, with a focus on teaching. The second generation of OER is associated with free self-instructional materials, with a focus on learning. The third generation of OER sees the convergence of teaching and learning, during which OER is developed collaboratively and shared freely. It is within this generation that we, as the lecturers of a structured master's programme in Education developed an OER with our current and previous students, using our lecture notes as well as students' assignments. Although we were already using OERs and open texts, they were not contextualised and mostly from developed contexts. The purpose of this paper will be to report on the pre-development process and post-development process. We documented the process to determine if students, with their different contexts, experiences as students, and subject and technical knowledge, could be a valuable resource for lecturers eager to collaboratively develop OER. We will also report on their perspectives based on informal meetings on Teams during the process and post the end of the process.

Community of Practice

This study will be framed by the Community of Practice (CoP) framework proposed by Jean Lave and Etienne Wenger, which refers to groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger & Wenger-Trayner, 2015; p. 1). CoP focuses on learning as a social process that occurs within communities of individuals who share a common interest or domain of knowledge. In this regard, lecturers and postgraduate students formed a community of practice centered around sustainable OER development, and share a common interest in open education, sustainability, and educational technology. Collaborating with students allows emergent, student-centered, and student-guided approaches as we learn together about OER and contribute to societal discussions about its future practices (Mills, Maha & Lance, 2023). By engaging in discussions, sharing resources, and collaborating on OER project, students can deepen their understanding of OER practices and collectively contribute to the development of relevant and impactful OER (Andone, Mihaescu, Vert, Ternauciuc, & Vasii, 2020). CoP emphasizes the co-construction of

knowledge within a community. By collaboratively constructing knowledge and leveraging the collective expertise within the CoP, students can develop a deeper understanding of sustainable OER and contribute to its advancement (Tan, 2021, Van den Berg & Du-Toit-Brits, 2023). Through active participation, they can develop a sense of purpose, values, and professional aspirations, leading to meaningful learning experiences and long-term engagement in the open education community.

Research design and methods

The research will use a qualitative approach to collect data within an interpretative paradigm. Merriam (2009) argues that qualitative research has multiple interpretations as they exist at a specific point in time within a specific context. The phenomenon that will be investigated is Postgraduate student involvement in the development of sustainable OER. The empirical research process involved drafting an open-ended questionnaire. These individuals will be purposively selected from the student cohorts of 2021/2022 based on their academic performance in the four modules. To ensure the questionnaire's trustworthiness, the four criteria will be followed, dependability, credibility, transferability, and dependability (Lincoln & Guba, 1985). Thematic analysis will be used to analyse data. The six steps require that the researchers familiarise themselves with the data and prepare notes based on the data; systematically generate codes; use coded data to identify themes; establish and review themes; define and label the themes; formulate the report based on the identified themes (Braun & Clarke, 2019).

Conclusion

By applying the Community of Practice framework, postgraduate students can participate in a vibrant and collaborative community focused on OER development. This approach promotes active participation, social learning, and knowledge co-construction, leading to a deeper understanding of learning and the creation of valuable open educational resources. The study envisions that by exposing students to open education encouraging them to be co-developers of OER, allowing them to connect in multiple ways, inspires them to use education resources in their quest for knowledge.

The research is part of the *Digital Humanities Open Educational Resources Champions* initiative, by UNESCO, SADiLar, ESCALATOR and the UNESCO Chair on Multimodal Learning and OER at NWU.

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Práctica del Español como lengua extranjera: Interculturalidad México-Japón

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La pandemia provocada por el Covid-19 provocó cambios en el proceso de enseñanza-aprendizaje de todas las especialidades, incluyendo las aulas universitarias. La práctica de las lenguas extranjeras no fue ajena, debido a que los viajes para intercambios de las competencias lingüísticas-culturales dejaron de realizarse. Sin embargo, la tecnología propició desarrollar dichas habilidades entre los estudiantes de dos países tan distantes, como México y Japón. Con el apoyo de las plataformas de Facebook y ZOOM se logró un intercambio intercultural entre los estudiantes de español para extranjeros de la Universidad Ritsumeikan, en Osaka, y los de Ciencias Educativas de la Universidad Autónoma del Carmen, en el estado de Campeche, México.

Se llevó a cabo un Proyecto piloto denominado Interculturalidad, sobre la base de un estudio cualitativo-descriptivo, cuyo objetivo fue desarrollar la competencia intercultural entre los estudiantes involucrados, al desempeñarse en las habilidades de lectura, escritura e intercambio cultural, a través de Facebook; mientras que las el desarrollo de otras como la de audición y expresión oral se realizaron por la plataforma ZOOM, durante cuatro meses. Los resultados fueron altamente satisfactorios, fundamentalmente porque la metodología en la universidad japonesa nunca había contemplado la educación a distancia hasta ahora.

Food insecurity among staff in ODeL in South Africa

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Introduction

While food insecurity on the African continent and among South African university students specifically has been well documented as a perennial issue, the impact of Covid on livelihoods has yet to be fully determined. Furthermore, while the food insecurity among university staff has been documented in other countries, there is little research on the matter in South Africa. It is therefore important to determine what is the status of food insecurity is in the sector currently to ascertain the impact of the past few years on staff and in the sector.

The aim of this study is to determine the prevalence of food insecurity among staff at an Open Distance Learning Institution in South Africa.

In addition to the aim described above, the study has a number of objectives, namely,

- To determine the level of food insecurity among staff.
- To conduct a comparative analysis between genders on the above variables

Research questions

- What is the level of food insecurity among staff?
- Is there a significant difference in housing and food insecurity between genders?

Literature review

University staff food insecurity

Kent, Visentin and Peterson et al (2022) and the experience of food insecurity in Australian university staff is unknown. A cross-sectional online survey in March 2022 aimed to characterize the severity of food insecurity in students, professional and academic staff at the University of Tasmania (UTAS) state that the experience of food insecurity among university staff is relatively unknown in comparison to research on student food insecurity. Searches for food insecurity among university staff yields few results and those studies that have been conducted tend to focus on faculty. Among the studies conducted food insecurity is estimated to range from 11% to 70% in Canadian and American institutions respectively (Kent et al., 2022) and the experience of food insecurity in Australian university staff is unknown. A cross-sectional online survey in March 2022 aimed to characterize the severity of food insecurity in students, professional and academic staff at the University of Tasmania (UTAS). Research on staff in South African universities and distance education in particular is also lacking, leaving a gap in the literature which this study aims to fill.

Method

This study will adopt a quasi-experimental design where naturally occurring groups in society are used as the unit of analysis to investigate the phenomena under study.

Population and sample

The populations for this study are all staff and at the institution understudy who currently work at the institution.

The sampling strategy for this study is a census sampling and aims to achieve a sample of 10% of the total population.

Data collection

Data collection will be conducted online using anonymous surveys distributed to staff email addresses. The instruments used in this study are the General Demographics survey, a self-developed instrument that collects key demographic data such as race, gender, sexual orientation, household income, specialisation, employment status and years of experience for those who are economically active. The second instrument is the Food Insecurity Experience Survey (FIES) which measures the degree of food insecurity among individuals.

FIES

The FIES asks eight short questions aimed at adult individuals which aim to assess the constraints on their ability to obtain adequate food (Grimaccia & Naccarato, 2019; Wambogo et al., 2018). Item responses are a simple yes or no response to simplify analyses and create the opportunity for cross national comparisons using the same reference period (12 months). Each item assesses a different situation and is associated with a level of severity according to the underlying theoretical construct of food insecurity (Grimaccia & Naccarato, 2019). Scores range from 0 (no symptoms of food insecurity) to 8 (all symptoms of food insecurity).

Data analysis

Descriptive analysis will be used to assess the prevalence of food and insecurity and logistic regression will be used to determine predictors of food insecurity. T-tests will be used to assess differences in gender.

Results

The final sample that met the criteria for analysis set by the guidelines for using the FIES was $n=126$. While low, the response rate is sufficient for the purposes of generalization given the actual size of the sample which is well over the 100 cases recommended for inferential research.

The majority of respondents were female (56.8%) with males representing 42.2%. Approximately 62.2% of the respondents were African. The majority (40%) of respondents were administrative staff, followed by 29.7% who were faculty and 17.3% who were professional staff. Most respondents (81.1%) were working full time on a permanent basis while 11.9% were working on a contract basis. In terms of household income, 10% earned between R 0-R 6000 per month which equates to a maximum dollar income of \$328 while 29% earned about R56 000 per month (\$3060).

Food insecurity prevalence rates

The findings reported in this section are preliminary findings are subject to further analysis. Table 1 below provides the frequency counts of the number of respondents categorised based on their raw scores which are calculated by using the sum of their answers to each of the eight items on the FIES.

The majority respondents (67.5%) were food secure and mildly food insecure (score of 1 to 4). While those who were moderately food insecure represented 15.1% of the sample (score of 5 to 6) and those with severe food insecurity represented 17%.

Further analyses was conducted to determine whether there were any significant differences in gender in food insecurity levels. There was a significant difference in the levels of food insecurity with females ($M = 2.30$, $SD = 2.743$) reporting lower levels of food insecurity than males ($M = 3.27$, $SD = 3.274$) ($t(148.35) = 2.109$, $p = <.001$).

Implications for ODeL institutions

Staff health and wellness are key to the sustainability of any institution. This is particularly true of ODeL institutions where student to instructor ratios are high and the support environment is one of high demands and high pressure. Staff who are food insecure will not be able to provide the focus and attention to detail required to optimally perform in this environment as they have to divide their attention to fulfilling basic needs. While this sample shows that the majority are food secure, it is concerning that there is almost a quarter of staff who are severely food insecure despite working fulltime.

Further analysis on this paper will include cross tabulating positions with food insecurity scores, testing for differences in food insecurity scores between permanent and contract staff and examining which demographic variables predict food insecurity.

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Design thinking application for soft skills development in a human digital society

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The aim of this study is to develop a teaching-learning framework for the techno-humanist ecosystem, focusing on the acquisition of soft skills through the design-process approach. The initial step in this investigation is to comprehend the fundamental components needed to conceptualize a conceptual framework. The authors aim to achieve this objective by conducting a systematic review of the literature on the definition of soft skills, design thinking and digital humanism. The investigation is followed by an understanding of the emergence of the employment market, which calls for soft skills. Considering the current state of the art, this research will examine how these ideas converge and affect each other. Finally, the primary outcome of this research will be a visual matrix representing the point of intersection between these concepts. It will help to establish the foundations for a teaching-learning model that will be able to adapt to and face the challenges of a human-digital society.

An Assessment of Acceptance and Perceived Ease of Use of Virtual Examination System Among Open and Distance Learners in Nigerian Universities

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This study investigated Open and Distance Learners' acceptance and perceived ease of use of the virtual examination system facilities in Nigeria. Cross-sectional survey design was used for the study. Learners from universities running the ODL programmes in Nigeria formed the population of the study. A sample of eight hundred and twenty-nine (829) learners from the three selected ODL institutions was purposively selected for the study. The instruments were Learners' Acceptance of Virtual Examination System (LAVES) and Perceived Ease of Use of Virtual Examination System (PEOUVES). Cronbach Alpha used to determine the internal consistency of the instruments yielded reliability coefficients of 0.82 and 0.74 respectively. Two research questions were answered. Data were analysed using frequencies, percentages, mean and standard deviation statistics. Findings from the study revealed that majority of the respondents accepted and perceived virtual examination system facilities as easy to use, but are opposed to the proposal that virtual examination should not be part of open and distance learning. It was recommended that virtual examination system be encouraged and this study be replicated in non ODL universities in Nigeria.

Colectivo Rompecabezas: from the rhizome to the new educational scenarios of the UNED through art

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The action-research project of the Colectivo de Arte Inclusivo Rompecabezas (Collective of inclusive art) is a latent cell that moves other systems and disrupts the ecosystem of the learning community that is the Universidad Estatal a Distancia (UNED). The relationships established in the work networks are not static, they are in constant movement and construction, therefore, inclusion through art has touched in different ways several instances, creating new connections and opportunities for people with disabilities as well as for those who work in instances and institutions involved. The purpose of this paper is to analyze the relationships in which the Collective has participated inside and outside, using the metaphor of rhizomes to explain how it has influenced the people and institutions with which it has had contact.

The Colectivo de Arte Inclusivo Rompecabezas was born from a research-action project that seeks to strengthen the development of social skills in young people with disabilities by participating in an artistic experience: theater. The project began its work in 2016 in partnership with a private theater that gave the workshops to young people between the ages of 12 and 25 with a diagnosis of autism spectrum disorder. In 2018, the call was expanded to receive young people aged up to 30 years old with various disability situations. At that time it was known as Grupo Rompecabezas, and it was not until 2020, when during the pandemic it became necessary to expand the range of artistic work of the group, that the name was changed to the current collective and reinvented through digital platforms, which later, when returning to face-to-face some of the technologies were retained to enrich the experience.

The objective of Rompecabezas is to promote inclusive art in all its forms, opening a space where young people with disabilities have access to a space for artistic development, specifically through theater. The project understands art as a human right to which everyone should have access, as established in Article 30 of the Convention on the Rights of Persons with Disabilities about cultural participation, according to which it must be guaranteed that all persons with disabilities can develop their creative, artistic and intellectual potential, both for their own benefit and for the enrichment of society.

For the development of this project longitudinally for seven years it has been necessary to work in a network, which has allowed the construction of an educational ecosystem composed of different elements that nurture the Collective and the possibilities that it can offer to the participants. Although the project was born in the school of Educational Sciences, it has been developed working cooperatively with other instances such as the Kä Träre fabrication laboratory of the Vice Rector's Office for Research, the Audiovisual Production Program, the Academic Audiovisual Production Program, the Institutional Office of Dissemination and Marketing and the Office of General Services.

Each of these departments has contributed with its knowledge and work, creating a synergy that has allowed the achievements of the Collective. In this way, high level artistic productions with virtual scenery, professional publicity and audiovisual production have been carried out,

which have nourished the training materials of the education careers, while the institution has produced academic productions on the subject of theater, art and social skills. In addition, we have worked in coordination with external institutions such as the Ministry of Culture and the Tecnológico de Costa Rica, the Museo Histórico-Cultural Juan Santamaría, the Tecnológico de Costa Rica and the Auditorio Nacional in the development of activities for the promotion of the Collective and the projection of inclusive art.

The Collective is made up of both an academic team and the most important figures of this program are the people with disabilities who participate in the project. As part of an action-research project, these people, along with their families, have been integrated over the years to the Collective, developing acting skills and strengthening a sense of belonging to the group and the university. Their voice is the main voice in the process, as interviews and dialogues are always carried out to know their opinion about what has been developed, as well as involving their families to provide them with all the necessary support to carry out their roles during the theatrical performances. The project also has tangible results in the daily life of the participants and their artistic and personal development.

To coordinate and develop this work there is an interdisciplinary academic team composed of people with careers in special education, basic general education, psychology, communication, engineering, speech therapy and psychopedagogy, who are supported by a group of young university students who support the development of the sessions and the management of the group on a voluntary basis.

However, the group does not work by itself. For the development of their artistic presentations, they have had to work with other instances and professionals of the university itself. For example, the university's Audiovisual Production Program has been in charge of recording documentaries, generating audiovisual resources for the presentations, recording stage productions, facilitating a voice-over workshop and making radio interviews with the group's actors and actresses. The Institutional Marketing and Communications Office chose to include the group in one of its activities after having presented one of its performances and participated in its staging. The Kä Träre fabrication laboratory was involved from the beginning of the project with the training of the participating group in technology such as programming, basic electronics and 3D printing for the creation of props for the plays. The Multimedia Electronic Production Program (PEM) made the photographs of each participant of the Collective and the promotional arts for their latest play.

But the work is not limited to the collective itself, as they have worked with technicians from the theaters in which they have performed, interviews with journalists from outside the institution, as well as dance, yoga, makeup, masks, and creativity workshops coordinated with the Ministry of Culture. In addition, they have worked with costume and make-up artists who have supported the staging.

Finally, all this work is synthesized in an annual presentation every year in front of an audience, usually composed of family and friends of the participants, but also UNED staff members, as well as the general public with an interest in inclusive art. These presentations have allowed the public to participate in the results of the Collective's annual work in the staging of a play and, during the pandemic period, of a radio drama.

This study explores with people who have worked with the Collective without being a direct part of it and how this interaction has influenced their perception of disability, how they have dealt with the barriers to disability that may have arisen in these works, and the emergence of new opportunities because of these experiences. Likewise, the perception of the public that has had the opportunity to see the presentations of the Collective is investigated in terms of their expectations prior to the show and their evaluation of it, as well as their perspective of the art performed by people with disabilities. In this way, the educational ecosystem that has formed and of which this project is a part is analyzed.

An evaluation instrument was applied to both groups of people. In the case of the group of professionals who have worked with the collective, a questionnaire was applied consisting of three variables: perception of disability, barriers to disability and opportunities from working with the collective. For each variable there were four questions, for a total of twelve, ten closed and two semi-open. In addition, sociodemographic data and previous experience working with people with disabilities were included.

A thirteen-item instrument was applied to the audience that attended the plays or observed the presentations by electronic means, including demographic variables (sex, age, educational level and occupation), history of whether they had previously seen presentations by the group, expectations and appreciations of the staging, evaluation of aspects of the production (scenery, acting, music, costumes, make-up, etc.), and the quality of the production (scenery, acting, music, costumes, make-up, etc.), acting, music, costumes, make-up, plot), probability of recommending others to see performances by the Collective, influence of the play on their perspective of the artistic potential of people with disabilities, rating of the show and their reflections on the situation of disability after the staging.

In addition, an analysis was made of the way in which the work with other instances and the perception of the public affects the Collective as such. According to Maturana, love is "to accept the other as a legitimate other in coexistence; therefore, to love is to open a space of recurrent interactions with another in which his presence is legitimate without demands" (Maturana, 2001, p.32). This acceptance of the other as he/she is is an essential element in the educational processes. Although within the Collective there has always been a posture of acceptance of each participant with all his or her characteristics, abilities and potential, the fact of working with other people outside the Collective opens up a new range of possibilities. The project participants have learned from this group of professionals with whom they have worked, but at the same time they have received from them respect and appreciation for their skills, their work, and their commitment to the Collective. Being accepted by others and being open to working with others is part of a dynamic that allows for the construction of new networks and ultimately, new ecosystems of joint learning.

Likewise, perceiving the acceptance and appreciation of the public makes a difference for a population that has historically been excluded from cultural spaces and spaces of acceptance. Seeing themselves as protagonists, receiving respect and acceptance as such, increases the security and autonomy of the project participants, as well as reinforces their commitment and identity with the Collective and the artistic work.

In conclusion, this paper makes an analysis from the perspective of the Collective as a rhizome within the educational ecosystem, which influences and is influenced in turn in its relationship

with other institutional bodies and with institutions outside the UNED itself, which after an initial work with the group continue to carry out projects with it. It influences and is influenced by its relationship with the public that attends its presentations. As a whole, all these different cells of the educational ecosystem feedback and grow together, through art and inclusion.

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Opportunities for conversational interfaces and AI to enhance access to open and online learning for disabled students

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Technological advances and wider availability of artificial intelligence tools are increasing opportunities for conversational interfaces in open and online education. These could have particular value in supporting disabled students, where dialogue around needs and support is often beneficial to overcome barriers. In this paper, we introduce the design of a virtual assistant for this purpose at The Open University UK and analyse feedback from students who used it in a live pilot. Responses have been positive but also highlight themes for further work. We highlight themes arising from this and from our sector-wide exploratory activities, such as how assistants could support disabled people through transitions and in lifelong learning and how the roles they take might lead to longer-term changes in individual and organisational agency.

Introduction and Background

Open and online learning are often preferred or necessary ways to study for disabled people (Iniesto et al., 2017; Coughlan et al., 2019). While the flexibility of this has many benefits it does raise distinct challenges when compared to the models of disability support and student support employed in in-person teaching. The large scale often characteristic of open and online teaching also presents challenges in terms of managing individual support, for example 37,078 students with disclosed disabilities studied with The Open University UK in 2021/22 (Open University, 2023), and demand for support conversations peaks around the start of courses.

More broadly, there is growing recognition of the disproportionate administrative burden put upon disabled students, who are required to take time away from their studies and face additional pressures in comparison to non-disabled students, potentially contributing to differences in success (Westander et al., 2022; Hector, 2020; Coughlan & Lister, 2018).

Assistive technologies, adjustments and other support can overcome most barriers to study. However, around the world, these are often not in place for people who would benefit from them due to a lack of access, training and policies (e.g. WHO & UNICEF, 2022). Factors including greater integration of accessibility and assistive features with mainstream computing tools (Seale et al., 2021), global web accessibility standards linked to national regulations (Lewthwaite & James, 2020), and advances in artificial intelligence (AI) for accessibility, could enhance access and equity for disabled people. However, there are substantial concerns around harnessing AI ethically and effectively (Morris, 2020; Smith & Smith, 2020).

In this space, we explore the potential of conversational interfaces and AI to enhance support processes and reduce barriers. This is addressed through a participatory design approach which seeks to meaningfully involve the expertise of disabled students and those who work with

them. While seeking to take advantage of opportunities, we also look to explore the potential for negative impacts, such as bias, lack of responsibility or transparency, and the complex challenges that need to be tackled for effective change to occur.

Taylor: a case study in using a virtual assistant to support disabled students

The aims of creating Taylor were to support students through the process of disclosing disabilities, describing support needs, and learning more about study and support at an early point in this journey. A participatory approach was taken with workshops attended by students and staff to develop the direction, followed by iterative development and trials (Lister et al., 2021). Taylor asks a series of questions, based on the existing form-based process, but welcomes interruptions from students so that they can ask questions, review what has been discussed, or change their answers. Questions are answered with reference to a knowledge base that can be continually updated. Taylor also aims to interpret the students free text descriptions so that they can explain disabilities in their own words while the university can categorise their disabilities according to its expected structure. After the conversation an agreed summary and transcript are sent to the relevant support team. Recently, a feature has been added by which students are given suggestions of relevant information that could help them based on what they have told Taylor.

First trials of Taylor are reported in Iniesto et al. (2023), where participants compared the assistant to the existing form-based process for disclosing disabilities, with 65% reported a preference for using Taylor. Given the limited time for development of this first version, and the potential for further features and improvements, this is positive evidence that virtual assistants can improve on current processes.

In the larger pilot trial reported here, an enhanced version of Taylor is offered as an option instead of completing the existing form-based process to disclose disabilities. We gain further evidence and feedback through live use and have addressed issues raised. Over 400 students have completed conversations with Taylor to disclose disabilities so far in this new trial.

Survey findings

An optional feedback survey was introduced for students who had a conversation with Taylor. They were asked to take the survey via a follow up email. A prompt from Taylor at the end of the conversation was added in a later iteration, which appeared to encourage greater uptake of the survey. 103 respondents have completed the survey in the period November 2022 – June 2023 and data collection is ongoing.

Responses showed that most respondents had either used virtual assistants or chatbots more than 5 times (47.6%) or never (27.2%). This suggests a growing familiarity with this technology among much of the population, as in the previous trial held in 2020-21 only 32.8% had used such systems more than 5 times, and 33.6% had never used them.

90.3% of respondents agreed that they would be likely to use Taylor again, with only 4.9% disagreeing with this statement. Other closed questions focused on aspects of the design with

similar positive findings. Mixed responses were received to some statements around Taylor's communication style, for example 26.3% agreed that "I had to wait too long for Taylor to stop talking so that I could respond" and 10.7% agreed that "The messages were repetitive".

Respondents were asked from a series of options which areas for further development they wanted prioritised. In line with Iniesto et al. (2023), the most selected options were that the assistant could make suggestions of resources and tools that could help them (63.5%), that it could help them complete other forms and processes (55.6%) and that it would be able to answer more questions (41.3%).

Qualitative data from open questions was also collected, providing further insight in areas such as why a virtual assistant can be an enhancement to administrative processes. Within this a common theme is that this conversation appears less overwhelming and an easier structure to follow than a form, and for some, is preferred to talking to a person, e.g. "I really liked the experience and found it a lot easier than filling in a form or emailing. Felt personable but not as anxiety inducing as talking to a person."

Comments also enhance our understanding of areas for improvements. One theme in this is using wider information from student records to offer further personalised support, for example "Perhaps Taylor being able to see... that you are applying for a module and wanting to qualify for it to be free... then offer to explain the process and help you to submit". Another notes that "I am registering in Biology, it would've been helpful to have specific questions, e.g. 'In this module you spend x amount of time per tutorial, are there any accessible needs you would require for this?'. A further theme for enhancement is around the depth of Taylor's ability to explain the questions it asks, with one respondent noting that Taylor could do more in "helping to explain what things mean, if certain things count as an answer".

This survey data, in combination with log data of the conversations with students, provides a basis for understanding what students expect from conversations around disability, accessibility and support, and how virtual assistants can play effective roles in such processes.

Discussion

Our work to design and evaluate Taylor suggests that there are unrealised opportunities for virtual assistants to support disabled students in open and online learning. We are now exploring the wider potential for this through a further project, Digital Access Advisor, which is engaging with students, staff and researchers from across education sectors and around the world. Themes and questions for exploration include:

- How such systems could provide assistance and advice across the various transitions that students need to make to succeed in education and into employment.
- How they might support lifelong learning by providing useful support across contexts and platforms.
- The different roles they could take, including acting on behalf of the student in their interactions with an institution, providing direct support as a form of assistive technology or personalised learning, or acting as an agent of the educational institution (as in the case of Taylor).

- How the knowledge base underpinning such assistants can be enhanced and updated through collaborations or crowdsourcing, sharing of information and experiences, and by analysis of existing resources and websites.

We are now capturing broader perspectives on these and other issues to inform new research and development projects. As conversations about disability and access have a degree of consistency across contexts, we expect that there is much to be gained by models for collaboration that recognise this alongside an ability to adapt to the diversity of students and of the contexts in which they learn.

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Opiniones de estudiantado y personal docente respecto de los cambios en los procesos académicos generados debido a la emergencia sanitaria por el COVID-19 en la UNED; Costa Rica.

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Los escenarios que se presentaron debido a la emergencia sanitaria, en particular en la educación superior, evidenciaron la necesidad de reinventarse en poco tiempo; una de las principales acciones fue implementar la educación en línea (Diéguez-Batista et al., 2021; Peñuelas et al., 2020). En la Universidad Estatal a Distancia de Costa Rica (UNED) la tecnología es uno de los recursos fundamentales para el desarrollo del pensamiento crítico y el desarrollo del aprendizaje. (UNED, 2004).

Para el primer periodo 2020, la UNED ofertaba 42% de sus asignaturas virtualmente; la emergencia por la COVID-19 requirió un plan de contingencia en todas las áreas de la Universidad, tanto en lo académico como administrativo; entre ellas más becas estudiantiles, préstamo de dispositivos electrónicos, nuevas estrategias para llevar a cabo los procesos de graduación, matrícula 100% en línea, digitalización de todas las asignaturas de la oferta académica y programas de capacitación para toda la población universitaria.

Esta realidad propició que la UNED tuviera que fortalecer su plataforma tecnológica, desde la ampliación de todos los servidores, hasta el acompañamiento a la comunidad académica para enfrentar este reto que implicó nuevas estrategias para la mediación pedagógica de los contenidos, así como otras propuestas de evaluación que antes de la pandemia se realizaban de manera presencial (UNED, 2020).

A partir de estos cambios y de la reacción de la comunidad universitaria, se hizo este estudio con el objetivo de conocer y comparar las opiniones de estudiantado y personal docente sobre las medidas que fueron implementadas durante la emergencia sanitaria. En esta ponencia se presentan exclusivamente las comparativas de los datos entre profesorado y estudiantes.

Metodología

El estudio tuvo un alcance descriptivo (Alban et al., 2020) orientado a recuperar opiniones del personal docente y estudiantado sobre las estrategias desarrolladas en la UNED para afrontar los retos académicos que generados por la pandemia por la COVID-19, a partir de la aplicación de un instrumento en línea dirigido al personal docente (con 16 ítems) y otro al estudiantado (con 39 ítems); ambos se dispusieron en la plataforma *Lime Survey*® tras un proceso de validación

mediante criterio experto. Para garantizar el consentimiento informado se les envió, vía correo electrónico, los detalles de la investigación y la opción de aceptar o declinar participar. Al expresar estar de acuerdo y afirmar que conocían los términos de su participación, se les proporcionó el pase para el cuestionario.

La población estudiantil fue de 489 personas, cuyos rangos de edad fueron: 64,8% entre los 18 y 20 años, (18,5%) de los 21 a los 25 años (26,4%) y de los 26 a los 30 años (19,9%), esto evidencia que un alto porcentaje son adultos jóvenes. La población femenina fue considerablemente mayor (79,5%) en comparación con la masculina. De igual manera, la mayoría (51,9%) fueron estudiantes que ingresaron a la Universidad antes del 2018.

En el caso del personal docente se contó con 148 docentes, cuyas edades mayoritariamente fueron entre 41 a 45 años (21,6 %) de género masculino y 63,5 % del femenino. En cuanto a los años de trabajar en la UNED, los datos de mayor frecuencia revelaron que el 26,4 % tenían entre 1 y 5 años y el 23,6% entre 11 y 15 años.

El procesamiento de datos se realizó con el software SPSS®, utilizando medidas de estadística descriptiva. A partir de los factores y/o indicadores generados, se hicieron segmentaciones y cruces que permitieron obtener comparaciones de los datos de ambas poblaciones.

Resultados

Previo a la pandemia en 2020, el 42 % de la oferta académica de la UNED era virtual, por lo que los resultados que se muestran en la figura son coherentes, pues el 80% de los docentes encuestados, ya trabajan en diseño de asignaturas en línea y el 53% de la población estudiantil encuestada, ya hacía uso de la plataforma Moodle, el entorno virtual que utiliza la Universidad en su gestión académica.

Un 14% de docentes y un 47% de estudiantes, no tenía experiencia en el uso de plataforma o en cursos en línea y, por tanto, recibir material inductivo o acompañamiento al respecto, fue un tema relevante.

Ante esto, la institución dispuso de diferentes unidades como el Programa de Aprendizaje en Línea (PAL), la Dirección de Tecnología (DTIC) y personas conocedoras de la plataforma en las diferentes unidades académicas, entre ellas cada una de las escuelas que conforma la UNED, para ofrecer este acompañamiento y brindar inducción en el uso de la plataforma.

Tanto estudiantes como docentes tenían opción de acceder a tutoriales o de recibir inducción para el uso de la plataforma; sobre esta última era necesario solicitarla en la instancia específica. En el caso del estudiantado, para el ingreso y uso de las diferentes herramientas y para el personal docente, con el fin de diseñar y habilitar lo necesario para implementar en sus asignaturas; esta inducción permitió la adaptación al proceso en línea a quienes la requerían (Cáceres et al. 2020; Reyes y Quiróz, 2020; Vidal et al., 2021).

En la figura anterior se observa, en cuanto a la inducción, que el porcentaje fue bastante similar entre los dos grupos de participantes, con una tendencia levemente mayor del cuerpo docente. Además, la diferencia de datos entre estudiantes y personal docente no es significativa, por lo que puede inferirse que aproximadamente la mitad de la población encuestada no recibió esta

inducción. No obstante, este resultado puede ser coherente con la cantidad de personas que, de acuerdo con la figura 1, previo a la emergencia sanitaria, ya conocían el su uso.

Debe destacarse que participar de esa inducción era importante, pues, para quienes no habían interactuado con educación en línea, pudo haber incidido en el rendimiento académico, debido al desconocimiento de cómo mediar contenidos en los entornos virtuales e inclusive en la calidad de las estrategias pedagógicas ofrecidas (Ramírez-Montoya, 2020; Moscoso y Beraún, 2021; Roca et al., 2022).

Los porcentajes de apoyo evidenciados son poco significativos, pues probablemente, al momento del inicio de la emergencia sanitaria y de la implementación de medidas de contingencia, tanto docentes como estudiantes parecen haber requerido más guía de la que obtuvieron, aspecto coincidente con otras universidades (Abreu, 2020; Díaz et al., 2021).

La opinión del personal docente sobre el apoyo recibido está dividida; en el caso de los estudiantes, se evidencia que la institución sí brindó los apoyos necesarios para enfrentar el reto. Estos apoyos fueron comunicados vía correo electrónico o redes sociales, siendo las Sedes Universitarias (Centros Universitarios) el principal apoyo, pues en primera instancia, fueron quienes atendieron las inquietudes estudiantiles. En el personal docente, el apoyo fue recibido por las cátedras, quienes son siempre su primer contacto institucional.

Al estudiantado se le solicitó valorar, en general, las instancias que brindaron soporte, y al personal docente se le consultó sobre aspectos más específicos, como los que se señalan en la figura 4. Se observa una buena valoración del estudiantado sobre los apoyos recibidos institucionalmente. El personal docente indica que las frecuencias más altas se concedieron a la Coordinación de cátedra, la Dirección de escuela y la Coordinación de carrera.

Aunque el 50,7% de las personas docentes participantes valora a las Sedes Universitarias como una de las instancias de apoyo durante la emergencia, lo cierto del caso es que este resultado es lógico, pues por lo general estas instancias por sus características y funciones, dirigen su atención a la población estudiantil que atienden.

Esto refleja que las unidades destacadas para brindar soporte, si bien es cierto parecen no haber tenido la cobertura esperada, realizaron su tarea eficaz y satisfactoriamente para la población encuestada y esto incide en el rendimiento académico y la calidad educativa ofrecida (Canaza-Choque, 2020; Caicedo 2021; Bedoya-Dorado et al., 2021; Maluenda et al., 2022).

Ambas poblaciones opinaron el prestar más atención a la evaluación, aspecto que está contemplado en el modelo pedagógico de la Universidad, donde se indica que esta se tiene que adaptar a la realidad y características estudiantiles (UNED, 2004).

El profesorado, incluyen tema como el cambio en los procesos de enseñanza- aprendizaje y la virtualización de pruebas, coincidente con otros escenarios de educación superior (Martínez-Garcés, 2020; Validivia, 2020), lo que contrasta con la opinión del estudiantado, pues en la mayoría de los rubros relacionados con este tema, los porcentajes obtenidos son los mayores.

Se observan pocas coincidencias entre las sugerencias de mejora; para la población estudiantil el énfasis está en mejorar la comunicación y el manejo de tiempos; para el grupo de docentes es el fortalecimiento de plataformas virtuales y virtualización; aunque mencionan la coordinación, planificación y evaluación de los procesos, que parece ser un punto débil común otras instancias de educación superior (Gazca 2020; Ortega et al., 2021).

Conclusiones

Las opiniones del personal docente y estudiantado respecto a la respuesta de apoyo de la UNED ante la emergencia sanitaria, fue valorada similarmente en ambas poblaciones, con frecuencias cercanas al 50%; sin embargo aquellas personas que solicitaron acompañamiento en diferentes instancias de la Universidad, valoraron positivamente ese seguimiento, lo cual demuestra efectividad en el apoyo, pero faltó acompañamiento de cátedras al personal y de las unidades académicas al estudiantado, lo cual es comprensible ya que durante la emergencia la manera de trabajar cambió radicalmente y fue necesario aprender tareas que no se tenían contempladas, por lo que los tiempos de respuesta no siempre fueron los mejores, dado el incremento en el volumen de trabajo que se experimentó.

Al comparar datos entre ambos grupos, se observan tendencias similares en cuanto a información para las modificaciones de asignaturas al inicio de la emergencia sanitaria, así como en criterios de mejora, por ejemplo, en aspectos evaluativos y en la mejora de procesos de comunicación.

Sobre las sugerencias brindadas por la población, acerca de prioridades sobre oportunidades de mejora, estas no coinciden entre ambos grupos; para el personal es más importante mejorar el uso de plataforma y virtualización, y para el estudiantado, la comunicación y aspectos evaluativos. Estos resultados son de esperarse, pues el docente es el responsable de la gestión académica de las asignaturas. Por eso, mejorar aspectos como la mediación pedagógica en los entornos virtuales es de importancia, no obstante, para los estudiantes mantener una buena comunicación y estrategias de evaluación adecuadas y eficaces, revisten importancia.

A partir de los datos recopilados se observa que la implementación paulatina que se venía ejecutando, sobre reforzar las plataformas digitales y ampliar la cantidad de cursos en línea, fue la base que garantizó una adecuada aplicación de las medidas de contingencia, pues en la UNED antes de la pandemia, ya se contaba con una cantidad importante de experiencias respecto al manejo de las herramientas digitales y la virtualidad, así como con cursos de capacitación por parte del Centro de Capacitación en Educación a Distancia (CECED) y otras estrategias de aprendizaje implementadas previamente.

Las poblaciones participantes en el estudio consideraron que estas vivencias son válidas para la mejora de acciones tales como la optimización de la virtualización de material didáctico y estrategias de mediación, así como de las actividades evaluativas, e inclusive de procesos y sistemas de comunicación a lo interno de la institución.

Finalmente, ambos actores coinciden en la necesidad de que la institución cuente con un protocolo de atención y medidas de emergencia para situaciones imprevistas.

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ID 4.0 - INTEGRATING ADDIE, DT, LXD, AND DDLD FOR AGILE INSTRUCTIONAL DESIGN

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Agile instructional design

Agile instructional design, inspired by the software development industry, has a history of flexible approaches within the evolution of instructional design models. One notable approach is rapid prototyping, proposed by Tripp and Bichelmeyer in 1990. According to these authors, instructional problems cannot be fully defined all at once, and a flexible instructional design approach allows for creating prototypes, testing them directly with clients, and then quickly revising them based on the results.

However, it was the publication of *Leaving ADDIE for SAM: an Agile Model for Developing the Best Learning Experiences* by Michael Allen in 2012 that truly questioned the relevance of traditional instructional design models like ADDIE and its variations. Behind this notion is the idea that business requirements change even before a project is completed, necessitating a shift from traditional instructional design approaches, such as ADDIE, where planning and communication occur upfront, to more flexible approaches where projects are completed in smaller increments with increased communication between team members and clients.

It's important to note that in the field of instructional design, being agile means more than just being flexible. It entails disciplined flexibility, focusing on delivering the most essential solution, responding to the most significant changes, and constantly adjusting needs and outcomes as a project unfolds.

Agile methodologies in instructional design

Various instructional design methodologies claim to be agile, varying in their degree of adherence to the agile philosophy itself. Some methodologies are presented in structured book formats, such as Rapid Instructional Design (RID), LLAMA (Lot Like Agile Management Approach), and the ID 4.0 discussed in this paper. Others are continuously refined and disseminated through consultancy technical reports, workshops, scientific or commercial articles, and web postings, such as SAM (1 and 2) and the IDC Learning Circle Framework.

The **Rapid Instructional Design (RID)** is an agile approach that accelerates instructional design processes, focusing on efficiency and responsiveness within organizations. It combines strategies like modularization, skipping unnecessary steps, and leveraging existing materials to streamline design. RID emphasizes learner involvement, standardized templates, and support for content experts. While it excels in meeting quick learning needs, caution is needed to address potential drawbacks such as limited planning and integration challenges. RID offers cost-effective solutions, enabling the creation of various resources for time-sensitive training. It optimizes available resources, yielding tangible results within a short timeframe and enhancing instructional design capabilities for impactful learning experiences.

SAM (Successive Approximation Model) is an agile instructional design methodology developed by Allen Interactions. It challenges traditional linear approaches by emphasizing small iterations and prototyping, in contrast to the extensive phases found in traditional ID models, particularly those employed in corporate education. SAM 1 is suitable for small-scale projects, while SAM 2 accommodates larger and more complex endeavors. Both versions involve evaluation, design, and iterative development, with a focus on aligning with organizational strategies, addressing learner needs, and continuously refining solutions.

A.G.I.L.E is a methodology developed by Conrad Gottfredson in the early 2010s, aiming to foster organizational agility and adaptability. Drawing inspiration from agile methodologies in software development, AGILE emphasizes prioritization, short iterations, transparency, accountability, and embedded quality. The methodology encompasses five stages: ALIGN focuses on aligning learning actions with organizational strategy and learner needs; PREPARE involves rapid task analysis and critical skills analysis to inform the development of a comprehensive learning plan; ITERATE & IMPLEMENT focuses on iterative development and incremental implementation of learning solutions; LEVERAGE leverages digital technologies to support performance at the moment of need; and EVALUATE assesses the value and impact of the learning solution. By following AGILE, organizations can enhance their ability to respond to change, improve learner engagement, and achieve effective and efficient learning outcomes.

LLAMA (Lot Like Agile Management Approach) LLAMA (Lot Like Agile Management Approach) is an adaptation of the agile approach for instructional design, developed by Megan Torrance in 2013. It employs an interactive and incremental methodology, where educational solutions are continuously tested, evaluated, and revised throughout the design and development stages. Projects are completed in small increments, allowing stakeholders and learners to actively engage with the evolving product. LLAMA acknowledges the need for flexibility and accommodates unforeseen changes. However, there are significant differences between instructional design and software development in terms of the focus on learning objectives and the involvement of specialized teams. LLAMA adjusts the agile approach by incorporating the five phases of the ADDIE model and emphasizing iterative development with multiple iterations. By embracing LLAMA, instructional design teams can effectively manage projects, adapt to evolving needs, and deliver impactful learning solutions.

Learning Circle Framework™ is an instructional design model created by IDC (Instructional Design Central), a private company founded in 2006 in the United States. IDC also serves as a community that connects over 20,000 instructional design professionals in more than 20 countries worldwide.

The framework consists of several phases, starting with the Target phase where fundamental questions about the audience, learning or business problems, and learner needs and objectives are addressed. The Creation phase focuses on developing, testing, and revising learning materials, with an emphasis on curating existing content rather than creating entirely new content. The Launch phase involves defining the course roadmap, implementation timeline, target audience, delivery channels, and communication plan. A key contribution of this methodology is the Learning Design Canvas™, a visual tool that provides essential elements of a learning plan on a single screen. The use of visual resources like the Canvas in instructional design is a growing trend, enabling efficient planning and communication in the field.

ID 4.0

ID 4.0 is an intentional and systematic process of incorporating innovations into the analysis, design, development, implementation, and evaluation of educational solutions, with a basic premise of person-centeredness. It can be considered an agile methodology in the sense that it seeks to incorporate design approaches such as Design Thinking (for generating innovative educational solutions), Learning Experience Design (for defining learning pathways), and Data-Driven Instructional Design (for modeling and analyzing educational data) into the traditional instructional design process.

ADDIE is a widely used instructional design framework that provides a systematic approach to designing effective learning solutions. The acronym ADDIE stands for Analysis, Design, Development, Implementation, and Evaluation. Each phase represents a specific stage in the instructional design process.

Design Thinking (DT) is a human-centered approach composed of a process, a mindset, collaborative methods, and co-creation strategies. The DT process consists of three stages – Hear, Create, Deliver – acronym HCD, which also corresponds to the expression Human-Centered Design, defining the approach.

It is important to note that DT is not a completely new concept but is deeply rooted in various design fields such as graphic design, environmental design, and Web design. It combines different modes of thinking, including divergent and convergent thinking, individual and collaborative thinking, and inductive, deductive, and abductive thinking. This integration of diverse thinking approaches allows for a comprehensive exploration of ideas and perspectives.

In terms of process, DT shares some similarities with ADDIE. Both involve stages such as understanding the problem, designing solutions, prototyping, and implementing the chosen option. They also embrace formative evaluation, where feedback is continuously sought and integrated into the design process. However, the DT process exhibits a greater focus on creativity, exploration, and innovative thinking, encouraging participants to think outside the box and consider unconventional approaches to problem-solving.

The role of people in the design process is another noteworthy aspect. In DT, individuals are considered design thinkers or stakeholders, actively involved in the problem-solving process. Their perspectives, experiences, and needs are valued and integrated into the design solutions.

LXD also incorporates principles of human-centered design and user experience (UX) design. It seeks to create learning experiences that are intuitive, interactive, and engaging, drawing inspiration from the fields of design, psychology, and cognitive science. The goal is to foster active participation, critical thinking, and deep learning.

In the LXD process, designers utilize various tools and techniques to ideate, prototype, and iterate on their designs. They may create storyboards, wireframes, or interactive prototypes to visualize and test the learning experiences before they are fully developed. This iterative approach allows for continuous improvement based on feedback and evaluation.

When integrated into the ADDIE model, the approaches of Design Thinking (DT), Learning Experience Design (LXD), and Data-Driven Learning Design (DDLDD) collectively enable the creation of educational solutions, or more precisely, immersive learning experiences, in a more holistic and organic manner. By incorporating DT, LXD, and DDLDD, the design process embraces

an integrated perspective of the teaching-learning process, guided by a people-centered approach and oriented towards achieving desired business outcomes. This comprehensive integration considers the intricate interplay of various elements and factors, ensuring a cohesive and effective learning experience for all stakeholders involved.

Thus, far from reducing or skipping the stages that have established ADDIE as a methodology for creating educational solutions, ID 4.0 incorporates agile strategies such as Persona, Learner's Journey Map, and Feedback Matrix, among others, into traditional instructional design practices. These additional strategies enhance the ID process, allowing for a more dynamic and responsive approach to meet the evolving needs and preferences of learners.

Canvas Kit for ID 4.0

One of the highlights of ID 4.0 is the provision of a Canvas Kit to visually consolidate and represent aspects related to each step and activity involved in the process.

Step 1 - Understanding the Problem

In this step, a contextual analysis is conducted before initiating the design of the solution or learning experience to comprehend the purpose of the solution (resulting in the overall objective), the individuals involved in the problem (target audience and other stakeholders), the environments and timelines in which the educational action is expected to take place, the instructional approaches and support (human and/or intelligent), and the associated costs (in terms of human resources and materials required for development and execution).

ID 4.0 utilizes the **Visual Contextual Analysis Canvas** to record the decisions made in this phase. This template facilitates the identification of the learning needs context, the scope of the demand, the motivations and preferences of the learner persona, the stakeholders involved, the educational approaches, resources, costs, learning environments, duration of the educational event, and production deadlines.

It is worth noting that the visual contextual analysis already incorporates strategies from sister approaches of instructional design, such as:

- **The Results Planning Wheel**, inspired by the 6D methodology, helps refine the learning objectives in alignment with organizational needs by addressing fundamental questions: "Which organizational needs will be fulfilled?", "What will learners do differently and better?", "What or who can confirm this change?", and "What are the critical success indicators?"
- **The Persona**, inspired by Design Thinking, outlines the profile of the typical learner, including demographic data, goals, needs, a typical day at work and life, and past experiences that the represented group of people has encountered.

Step 2 - Designing the Solution

This step is dedicated to the detailed planning of the educational solution outlined in the Visual Contextual Analysis.

The purpose of the Learner Journey Map is to gain a deeper understanding of the learner's perspective, needs, and emotions at each stage of the learning process. It helps instructional designers and educators identify key moments, pain points, and opportunities for engagement and improvement. Indeed, the learner's experience can encompass a wide range of interactions, starting from the initial interaction of prospects before deciding to enroll in a course or program (business experience) to the perceptions and reactions after the course (workplace or life experience).

The **Data Plan** is a crucial element derived from the Learner Journey Map in instructional design. It involves identifying and analyzing relevant data to inform the development of effective learning experiences.

Stage 3 - Develop the solution.

In this stage, the elements identified in the Learner Journey Map and Instructional Design Matrix are produced/programmed in their respective media and technologies.

The **authoring of educational (micro)content** utilizes strategies such as content mapping, research from reliable sources, and generative writing to generate scripts for text, images, audio, and video. These scripts are then reviewed, formatted, recorded, edited, and made available in different formats and distributed through various channels.

ID 4.0 employs predefined templates to assist content experts or experienced practitioners in preparing these scripts. This is based on a macro instructional design that encompasses decisions made in a broader sense, not only regarding the resources to be prepared (text, video lectures, quizzes, case studies, forums, assessments, etc.) but also production metrics (number of pages, number of questions, video duration, etc.), quality requirements (alignment with institutional mission, originality, alignment with learning objectives), and schedule (delivery flow, validations, deadlines, meetings, etc.).

For the authoring of educational (micro)content, ID 4.0 suggests personalized structures based on key questions to be answered, using the 5W2H methodology (What, Why, Where, When, Who, How, How Much) or variations.

Stage 4 - Implement the Solution

In this stage, the designed and developed instructional solution meets the real individuals who will learn and teach specific topics or competencies. This is where people interact with the produced content, the tools that enable the completion of activities, and other individuals, such as fellow learners or individuals in support roles.

During this phase, the resources (content and activities) are published in a learning environment, and the tools are configured, including any external tools integrated into the main environment.

If the instructional design includes social learning, communication tools are set up, along with guidance on how interactions occur with other learners (in groups, communities, networks, or collectives), as well as the roles of support (instructors, technical support, and even intelligent support, such as chatbots).

This stage also involves the collection and analysis of input data (demographic data, course expectations, prior knowledge), participation data (access and usage of resources, interactions, productions), and performance data (assessments).

Cross-cutting evaluation stage

In ID 4.0, the Evaluation Stage begins in the contextual analysis and spans throughout the entire design and development process, culminating in the implementation stage.

During the different phases of the ID 4.0 process, an agile and open evaluation tool can be used: the **Feedback Matrix**. This is a strategy derived from dt that can be employed to capture stakeholders' perceptions throughout the ID 4.0 stages. It is a co-creation instrument that focuses not only on critiquing what doesn't work but also on identifying what worked well, areas for improvement, unanswered questions, and proposing entirely new ideas that emerge during the evaluation.

What sets the Feedback Matrix apart from other evaluation instruments is its aim to capture not only stakeholders' perceptions of specific phases or instructional design tools but also their ideas for direction and solutions.

For instance, after the development of the Instructional Design Matrix or the preparation of the virtual learning environment, the team conducts a quick analysis of what worked, what can be improved, any questions that arise from this analysis, and any completely new ideas that emerge during that stage of the process.

Utilization of ID 4.0 in real-world cases

The ID 4.0 methodology is being utilized by organizations that provide corporate education solutions in both private sectors (training and development departments or corporate education systems) and public sectors (government schools). The methodology involves activities of analysis, design, development, and implementation, along with the utilization of corresponding Canvas Kit templates, which fully embrace the contemporary approach of instructional design.

Typically, the initial exposure to the methodology occurs through reading the eponymous book published in 2019 in Brazilian Portuguese.¹ Furthermore, organizations conduct training sessions, mentoring, and workshops with the teams responsible for designing learning experiences. These dissemination efforts focus on bridging the gap between theory and practice, with the foundational principles of instructional design and related approaches supporting the collaborative completion of the Canvas Kit tools.

The framework allows for the adaptation of the Canvas Kit to each organizational context, considering previous experiences, incorporating legacy tools, and adhering to specific sector

1 FILATRO, A. *DI 4.0: inovação na educação corporativa*. São Paulo: Brazil, 2019. The English version, *ID 4.0: Innovation in Instructional Design*, and the Spanish version, *Innovación en diseño instruccional*, were published in 2023 in Amazon KDP format by Lettera.

policies. This adaptation is carried out by working groups consisting of key decision-makers at the middle management level.

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Synchronicity Paradox of Open, Flexible, and Distance Learning: Engagement or Constraint?

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Traditionally the beauty of distance education approaches is to offer learners the freedom to access educational resources and participate in learning activities at their own pace and convenience, transcending the limitations of time and space. While these novel learning paradigms promise enhanced flexibility and accessibility, they also introduce a synchronicity paradox that raises questions about the nature of engagement and constraint within these learning environments.

This paper explores the synchronicity paradox within open, flexible, and distance learning, examining the dualistic nature of its impact on learner engagement. On one hand, the asynchronous nature of these learning modalities allows learners to tailor their learning experiences to their individual needs and preferences, promoting self-directed learning and fostering learner autonomy. Learners can engage with course materials, discussions, and assessments at their own convenience, potentially increasing their motivation and commitment to the learning process.

On the other hand, the absence of synchronous interaction in open, flexible, and distance learning may create challenges related to learner isolation and limited social interaction. The lack of real-time feedback from instructors and collaborative opportunities with peers could hinder not only the engagement but also the development of critical interpersonal and teamwork skills. Moreover, the absence of a fixed schedule may lead to procrastination and lack of discipline, potentially impeding the learning progress.

To address the synchronicity paradox, this paper reports the results of surveys conducted with the students of the Open University of Japan (OUJ), the largest open distance education university in Japan, in January 2023. It highlights the importance of incorporating synchronous elements, such as live virtual sessions, collaborative projects, and peer interactions, to promote social presence, active learning, and a sense of community among learners, while proposing strategies to mitigate its potential constraints and challenges associated with the synchronicity.

Distance Education research trends, levels and methodologies: a framework for developing countries.

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Research plays an important role in higher education (HE) because it informs policies and practices that can improve educational quality and the overall student experience. It also contributes to the advancement of knowledge and understanding in a specific field or discipline. Open Distance Learning (ODL) is a relatively new academic field, with research publications only beginning in the late twentieth century. In recent years, many HE Institutions have seen the need to include ODL as part of their academic pedagogical offering. This is due, in part, to the worldwide COVID-19 pandemic, where online learning, as a form of distance education, has gained traction at most universities, both in developing and developed countries. A new academic field can be strengthened by publishing research in that specific area and the field of distance education has been criticised for its lack of scientific rigour (Perraton, 2000; Bernard, Abrami, Lou, & Borokhovski, 2004). Furthermore, the authors argue that research should always be not only academically sound, but also contextually relevant to the country's setting and circumstances, particularly in the academic field of ODL research.

According to the IMF, there are 152 developing countries in the world, with a current population of approximately 6.77 billion people. This is a significant proportion of the world's population, accounting for 85.49 percent. It encompasses all Central and South America, all of Africa, almost all Asian countries, and several other island nations (WorldData, 2023). Many countries with significant ODL institutions are considered to be developing nations. India, Turkey, Pakistan, Bangladesh, Indonesia, Nigeria, and South Africa are among them, as are Uruguay and Brazil. Over 50 per cent of students in higher education worldwide, hail from developing countries (Roberts, 2018).

Many of the founding ODL universities (including the University of South Africa (Unisa), and the Open University and Indira Ghandi National Open University (IGNOU)) began their teaching in a correspondence format, and some of these institutions are still in the transformation stage of moving from correspondence to online teaching. Many developed countries' forays into distance education began in the online format due to their advanced infrastructure and connectivity and did not need to undergo the transition from paper and pen to digital.

The overarching aim of the present research is to develop a context specific ODL research framework that developing countries can use. This project is divided into 2 phases. The first phase used a systematic literature review and content analysis to examine published by South African (SA) authors and the results are presented in this paper.

The ODL research framework developed by Zawacki-Richter (2009) was used to examine the research levels of SA authored ODL journal articles over a 14-year period (2010-2023). The investigation provides insights into the state of ODL research in South Africa at various research levels (Macro, Meso and Micro, as well as sub-categories within each level) and tracks the changes that have occurred over the review period. Furthermore, research trends were tracked longitudinally to ensure that ODL research is current and not outdated. An examination of

research designs and methodologies is also provided to demonstrate the scientific rigour of the research. Finally, the vehicles for disseminating ODL research articles were identified.

Within this broader aim, the current research empirically examined DE, ODL and Open Distance e-Learning (ODEL) journal articles, authored by SA affiliated academics, with the view of identifying, not only trends, levels and methodologies, but also gaps in the research. This was done by coding the articles in a deductive manner through the application of Zawacki-Richter's ODL research framework which consists of three major categories and 15 subcategories (Zawacki-Richter, 2009). The emerging themes and trends, the theoretical frameworks and methodologies employed, and the publication vehicles for disseminating the research is also included in this analysis. The investigation of publication vehicles examined whether research articles are published internationally or locally, and whether the journals are open access or not.

The research design for this paper is a systematic literature review and content analysis of all SA authored ODL research outputs between 2010 and 2023. Data was collected in the form of published journal articles from the Scopus database for international publications and SABINET for SA publications. The criteria for an article being classified as an ODL article was that the following terms must appear in either the title, keywords or abstract of the article: ODL, ODeL, distance education, online learning, e-learning or m-learning. The data was extrapolated from the above-mentioned databases, filtered and cleaned by the researchers involved. Thereafter, a composite database was created for the systematic review and content analysis to be applied throughout.

Various forms of data analyses were applied within this study. To determine the levels and sub-categories of the SA published articles, Zawacki-Richter's (2009) ODL research framework was employed. The results are reported descriptively using frequency tables and graphs. The two researchers classified the data separately and in the case of discrepancies, independent coders were asked to assist to adhere to inter-coder reliability purposes. Thereafter, the researchers applied a qualitative content analysis to derive the main themes, trends, methodologies and publication vehicles of the articles that formed part of the inclusion criteria of the study. Following the completion of this process, the researchers employed a comparative analysis to determine the similarities and differences between the levels, themes and trends. This content analysis was applied through the use of the software tool, EPPI-reviewer, in order to determine the main codes, categories and themes derived from the data. The dataset created by this phase of the research will serve as the basis for the development of the ODL research framework for developing countries in the second phase of this project.

These findings only apply to SA-authored ODL journal publications, and the project's next step will be to recruit research collaborators from other developing countries to replicate the study in their respective countries. This will allow for a comparative and expanded dataset to support the development of the ODL research framework for developing countries. It is envisioned that the second phase of the project, in which this framework will be developed, will comprise a Delphi study with participants from various developing countries.

"Methodological Eurocentrism refers to the idea that social science remains deeply Eurocentric, in that concepts and theories developed in Western historical settings and by Western academics can be universally apply everywhere to produce value-free knowledge" (To, 2021). Zawacki-

Richter's (2009) framework is predominantly Eurocentric and does not necessarily reflect the research levels that are relevant in the developing country context.

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Innovative introduction of transversal components in a higher education curriculum: Transversal Multimodal Learning Units in a Mexican public university

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Introduction: Students arrive to higher education with deficient skills

In Mexico, particularly in public universities, students arrive to tertiary education without having sufficiently developed basic competencies in three main areas: academic (learning, reading, writing, oral expression, logical thinking); digital (beyond the basic technological aspects); and in English language. The problem with these deficiencies is that they all have an impact in their overall development throughout undergrad studies and in their professional lives.

Thus, as scaffolding for the development of these competencies, the Autonomous University of the State of Morelos, in Mexico, developed the Transversal Multimodal Learning Units, a repertoire of eleven subjects to remediate and develop competencies in the three mentioned areas.

These competencies are not disciplinary nor associated with a specific field of knowledge. Therefore, they receive several names: generic, cross-curricular, transversal, transferable, soft, and several others, referring to the fact that they come into play in a vast variety of scenarios.

Underdevelopment of the mentioned skills derives from multiple causes, briefly explained as follows:

Academic competencies: It is assumed that higher education students develop basic academic competencies in previous educational levels, but that is not always the case. During the last two decades, Mexico has occupied the second last place in PISA (Programme for International Student Assessment), results that reflect deficient performance in reading, mathematics, and science. For years, reinforcing (or remediating) these competencies in tertiary education has been addressed as a cross-curricular task, and therefore it is believed that students gradually develop them while studying different disciplinary subjects. However, in the document “Higher Education in Mexico: Results and Relevance for the Labor Market” (OECD, 2019), it was found that faculty in higher education institutions consider that their main teaching goal is to contribute to the development of disciplinary knowledge and competencies, but not necessarily to offer scaffolding for cross-curricular or transversal competencies.

Digital skills. It is also assumed that young people spontaneously acquire digital skills and due to this belief, the development of these competencies in the higher education curriculum in Mexico has been nonexistent or barely visible. But, despite the myth of digital natives, it is evident that those currently studying a bachelor’s degree, at least in Mexican public universities, have a limited use and appropriation of ICT. Thus, for a significant proportion of students, their digital lives are limited to social networks and/or video games; this became more evident during

COVID-19 pandemic (Cáceres et al., 2021; Corell et al., 2021; Zorrilla et al., 2022). However, digital literacy involves a complex mixture of knowledge, skills, values, and attitudes that have been organized in different frameworks, such as DigComp 2.2 (Vuorikari, Kluzer & Punie, 2022) or the Media and Information Curriculum (UNESCO, 2021), and therefore it has been discussed that it requires to evolve from transversal content to having a full place in the curriculum, meaning a stand-alone subject or subjects (Frau-Meigs, 2019).

English language. Despite government initiatives to introduce English language learning in basic public education in Mexico, results have been quite poor according to different studies. Székely, O'Donoghue & Pérez (2015) evaluated 4,727 secondary students (finishing K9) from public schools in eleven cities in different geographical zones of Mexico, finding that 79% present level A0 (total lack of knowledge), 13% level A1, 5% level A2 and only 3% present B1 which is the expected level according to educational policies (levels based on the Common European Framework of Reference for Languages, 2001). Aquino, Núñez & Corona (2017) obtained similar results in an assessment applied to secondary students in the State of Mexico, where only 2.7% passed a test intended to evaluate the expected English language level after completing the first nine years of basic education. At the Autonomous University of the State of Morelos, the majority of entry-level students present levels of English language between A0 and A1.

A different approach to transversal components in the curriculum

According to Zorrilla (2020), the first thing to notice is that transversal content in higher education programs is focused from two perspectives: 1) transversal competencies are understood as those built across the curriculum, from a horizontal perspective [also referred as cross-curricular competencies]; 2) transversal curricular components are understood as those themes that are not strictly disciplinary (or that are inter or transdisciplinary) and that need to be incorporated across the curriculum, such as human rights, gender agenda, environmental issues, among others, most of them related to the Sustainable Development Goals (SDG).

The previous understandings situate transversal competencies and/or themes as cross-curricular contents. However, the experience reported in this paper rotates 90 degrees this perspective and proposes a repertoire of curricular subjects centred in transversal competencies, as their core content, and delivered through transversal themes. Thus, each learning unit (subject) addresses two types of transversalities: performative (competencies) and thematic (inter or transdisciplinary). This implies rethinking the notion of transversality itself.

The Transversal Multimodal Learning Units (UATM according to their initials in Spanish) project began in 2018 at the Autonomous University of the State of Morelos, in its Direction of Multimodal Education, e-UAEM. The UATM repertoire consists of eleven subjects, four focused on basic academic competencies, three focused on digital competencies, and four focused on basic English language competencies.

The UATM are transversal in several ways: a) They are designed to operate horizontally within the UAEM bachelor's degree programs, gradually being incorporated into the curricula; in all cases, they are identified with a unique curricular code, allowing for internal mobility; b) They cover different types of transversal competencies as previously discussed; c) They cover transversal

topics, which are current, inter or transdisciplinary topics included in the UAEM University Model (2022), covering sustainability, diversity and multiculturalism, human rights and social rights, gender equality, self-care, among others.

UATM are designed to be integrated in various ways into the curriculum (to provide flexibility) and can be implemented in different educational modalities (face-to-face, hybrid or virtual), which is why they are called multimodal, according to the UAEM University Model (2022), noting that multimodality was first introduced at UAEM in its previous University Model (2011).

The UATM repertoire is conformed by the following learning units:

Basic Academic Competencies (4 subjects): 1) Strategic learning (learning to learn); 2) Reading, analysis, and synthesis of texts; 3) Oral and written communication; 4) Logical mathematical thinking.

Digital Competencies (3 subjects, created according to the European Digital Competence Framework for Citizens, 2017): 5) Information and digital literacy; 6) Online communication and collaboration; 7) Digital content creation.

English Language Competencies (4 subjects created according to the Common European Framework of Reference for Languages, 2001): 8) English A1-; 9) English A1+; 10) English A2-; 11) English A2+.

All eleven subjects are implemented through learning activities based on transversal themes: Sustainability; Diversity and multiculturalism; Human and social rights; Gender equity; Self-care; University ethos and national culture; Entrepreneurship.

Given these topics are dynamic and timely, within the instructional design of each learning unit, guidance is provided for the teacher to include different contents that address transversal themes, according to criteria established by experts from the University itself in each subject.

As mentioned in Table 1, the first four units were designed to be implemented in any of the three institutional modalities: face-to-face, hybrid or virtual. The three units focused on digital competencies, according to their content and purpose, were designed to be implemented in hybrid or virtual modality. The four units devoted to English learning were designed exclusively for virtual modality, but each of them has two formats: tutored and self-administered. The self-administered units require a final human teacher assessment of two of the four competencies: writing and oral expression.

An innovative project initiating its phase of full implementation and evaluation

At present, nine of the eleven UATM have been designed and produced for multimodal scenarios by the Direction of Multimodal Education, e-UAEM, and the last two (English A2- and English A2+) are scheduled to be ready for implementation in January 2024.

These curricular units have been gradually incorporated into several undergraduate programs offered by UAEM. Currently, they have been included in 57 programs, which represents 61% of the 93 offered by UAEM.

During the January-June 2023 term, UATM were implemented throughout 57 educational programs in 89 virtual classrooms. It is important to mention that, regardless their modality of

implementation, each learning unit has a virtual classroom in Moodle, which includes contents, learning activities, learning strategies and guidelines for teachers, for the different modalities considered in each case.

These curricular components are of very recent creation since they initiated their implementation in 2020. At present, some adjustments have been made to the instructional design based on focus groups with teachers and there was a small research project focused on the first implementation of the unit dedicated to Information and digital literacy (Zorrilla & Castillo, 2023). At present, two doctoral students from the Institute of Educational Sciences are working on projects to evaluate this curricular innovation.

At this early stage of their implementation, it would be premature to report results, especially considering that their implementation has been gradual, starting with the first four, following with the three dedicated to digital competencies and lastly the four units focused on English competencies: the two labeled as A1 were ready to start operation for the January-June 2023 term, and the two labeled as A2 will be ready in January 2024. Once the repertoire is complete and in full implementation, in order to have a better measuring of its impact, starting in 2024 we will implement pre and posttests in all eleven units. We expect to have interesting results to present in a coming ICDE.

It might be a different way of understanding and incorporating transversal components in the curriculum, some would say disruptive, but we hope it is an effective one, to improve the employability of our graduates.

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National Quality Assurance Guidelines for Digital Education: Crafting a Multi-layered Box of Chocolates

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Introduction

This paper describes an initiative in partnership with Quality and Qualifications Ireland (QQI) to develop National Statutory Quality Assurance Guidelines for Providers of Programmes Supported by Digital Education. The National Guidelines aim to respond to some of the specific and/or additional quality considerations arising from new digital education models, including the growth of micro-credentials. In describing the development of the National Guidelines, and the related methodology and public consultation process, the paper addresses the overarching question: What types of quality assurance standards, indicators and processes are required for new and emerging blended, hybrid and online learning approaches? A related question is whether existing quality assurance frameworks are fit-for-purpose in the new era of digital education and the unscripted world of generative Artificial Intelligence?

In seeking to answer these questions, we report key lessons arising from a review of the international quality assurance literature. The paper also critically reflects on the challenges of navigating a path between the legal and statutory requirements of the National Quality Assurance Guidelines in the Irish regulatory context and a more enabling approach, which seeks to build sustainable institutional cultures of continuous improvement. While the domains and multi-layered structure of the new National Guidelines are described along with some of the underlying assumptions, the success of our efforts in balancing these competing quality dimensions will only be known when more education providers begin to unwrap and apply them in their local contexts.

Why new National Guidelines?

The growth of digital higher education continues to challenge many traditional approaches to teaching, learning and assessment. New digital technologies offer education providers and teachers with more choices about how they design the curriculum, interact with learners, and develop learning materials. Similarly, learners are expecting greater flexibility over the way they study. There is a growing worldwide trend towards more part-time online learners coupled with the unbundling movement through the emergence of micro-credentials. Accordingly, education providers are responding to increasing demand for flexibility by redesigning existing courses and programmes and developing new blended, hybrid and online learning experiences. While such flexible programmes and study options support upskilling in the context of the changing nature of work and create a more diverse range of lifelong learning pathways, the growth of digital education raises additional quality considerations. Therefore, a central rationale for

developing a set of new National Guidelines in the Irish context is the need to ensure a quality experience for learners as education providers seek to harness the potential of new digital higher education models.

What is digital higher education?

The term 'digital education' has particular significance in the European context. The *Digital Education Action Plan (2020-2027)*, launched by European Commission (2020), sets out a common vision of high-quality, inclusive, and accessible digital education in Europe. It has two main priorities:

- Fostering the development of a high-performing digital education ecosystem
- Enhancing digital skills and competences for the digital transformation

Supporting teaching and learning in a digital world is also a key strategic priority of the Irish National Forum for the Enhancement of Teaching and Learning in Higher Education (2019). A strong emphasis is placed on supporting those who learn, teach and lead to critically apply digital technologies with the goals of enhancing learning, teaching, and overall digital capacity. Set against this wider backdrop, the term 'digital education' was adopted for the purpose of the National Guidelines to reflect a contemporary and broad umbrella concept, which refers to three main types of programmes:

- Blended learning programmes
- Hybrid learning programmes
- Online learning programmes

The above nomenclature and the distinction between these terms is taken from a comprehensive global analysis of emerging quality standards, practices and supports for digital education published by the OECD (Staring, et al., 2022). While globally there is no single accepted definition of these terms and interpretations continue to vary in the literature (Singh & Thurman, 2019), the OECD proposes the following three broad categories of digital higher education based on differences in time and location of instruction:

- *Online learning* refers to a type of education where all direct teaching occurs online, either synchronously or asynchronously, or in combination.
- *Hybrid learning* refers to a type of education where direct teaching occurs using a mix of online and on-campus instruction, with the online components taking place synchronously, asynchronously, or in combination.
- *Blended learning* refers to a type of education where all direct teaching takes place in-person and is blended with and enhanced by online materials and activities and asynchronous interactions.

To whom do these National Guidelines apply?

The National Guidelines provide guidance to a diverse range of Irish education providers on the quality assurance and enhancement of digital education. Importantly, the guidelines recognise

that quality assurance serves different purposes. On the one hand, it ensures statutory compliance, offers public accountability, and provides some safeguards for learners and employers on the quality of blended, hybrid and online learning programmes, as required by QQI. On the other hand, the National Guidelines were constructed to help support education providers in their commitment to quality enhancement and continuous improvements.

How were the guidelines developed?

The National Guidelines were developed through a comprehensive review of the contemporary literature. Several seminal publications informed the guidelines, including a major meta-analysis of the quality literature on online learning (Singh & Thurman, 2019) and an international review of quality assurance frameworks, benchmarking tools and indicators for digital higher education undertaken by the OECD (Staring, et al., 2022). A critical review of 20 different institutional self-assessment frameworks completed by the European Universities Association (Volungevičienė, et al., 2021) along with a comprehensive analysis of quality assurance systems in Europe for digital higher education also informed the guidelines (Ubach & Henderik, 2023). Additionally, the guidelines were informed by several similar initiatives underway or published by other national quality assurance agencies.

Why guidelines rather than minimum standards?

From the outset it was recognised that quality assurance needs to reflect the diversity of the Irish sector and accommodate the changing education landscape. Thus, a narrowly defined set of minimum standards for digital education was deemed inappropriate and not fit-for-purpose. The good practice principles underlying the National Guidelines recognise a variety of contexts and provide a reference point rather than a recipe to inform, benchmark and enhance the design of blended, hybrid and/or online learning experiences. They indicate quality considerations across a wide spectrum of provision and recognise that programmes supported by digital education can take many different forms. Digital education is not a single entity. Context is crucial to how an individual education provider will design, implement, and evaluate programmes based on the proposed guidelines.

What key premises underpin the National Guidelines?

The National Guidelines were developed on the premise that quality assurance is most effective when providers take responsibility for it themselves. The primary responsibility for quality lies with education providers and their teaching, administrative and professional support staff. Thus, responsibility for quality assurance needs to be owned, shared, and distributed right across the provider. Of course, education providers also need to work closely with learners as partners in their own learning and in consultation with industry and community stakeholders.

It follows that a second key premise is that quality assurance is not a “tick box” exercise. Beyond statutory requirements, providers should use the National Guidelines to help *guide*, *monitor*, and *enable* the continuous improvement and fit-for-purpose provision of blended, hybrid and/

or online learning programmes. There is no end point in defining quality and quality assurance processes, especially given ongoing developments in new digital technology which continue to redefine the art of the possible in digital education provision.

A third underlying premise is that quality assurance needs to be multi-faceted and multi-dimensional. This assumption addresses another inherent weakness in many current quality assurance frameworks for digital education. For this reason, the good practice indicators that were adopted recognise that a continuous quality assurance loop needs to consider inputs, processes, resources, and outputs. Accordingly, the National Guidelines address each of these overlapping and mutually connected aspects of quality assurance, as depicted in Figure 3. They particularly encourage education providers to give increased attention to outputs in their commitment to quality enhancement.

How are the National Guidelines structured?

The National Guidelines and the related good practice statements and quality indicators for blended, hybrid and online learning programmes are structured around three contexts. They support a multi-layered approach that builds on the distinctive structure of the previous *Statutory Quality Assurance Guidelines for Providers of Blended Learning Programmes* (QQI, 2018). Accordingly, the guidelines are organised under the following three headings:

- Organisational context
- Programme context
- Learner experience context

The *Organisation Context* recognises the importance of leadership, quality management, relevant policies and regulations, and the provision of infrastructure fit-for-purpose in the provider's context. There are six domains:

- Strategy, management and implementation plans
- Policies, regulations and administrative processes
- Finances, infrastructure and resources
- Staff training, professional development and institutional support
- Strategic collaborations and partnerships
- Learners outside of Ireland

At the organisational level, it is necessary to demonstrate an understanding of the distinctive demands that digital education provision will make on infrastructure and systems that differ from traditional face-to-face contexts. Where the nature of high quality blended, hybrid and online learning is not properly understood, provision that was originally designed for a face-to-face learning environment may be poorly adapted for learners. For example, teaching staff with limited knowledge or experience of online learning may not appreciate the pedagogical opportunities and challenges. The responsibility of education providers to offer a good learning experience, and the potential reputational risk of not doing so, is significant. Online learning providers should be particularly mindful of using learner-centred approaches, which support

active learning rather than merely delivering digital content to a cohort of geographically dispersed learners.

The *Programme Context* focuses on the curriculum design and considers the programme structure, coherence, sequencing, teaching, learning and assessment methods in enabling blended, hybrid or online learners to meet intended learning outcomes. It contains six domains:

- Programme outcomes
- Approval and validation processes
- Learning and curriculum design
- Learning materials and resources
- Assessment and feedback practices
- Evaluation and continuous improvement

The focus of this section is on the key issues and principles of good practice in provider responsibility for assuring quality in the design, development, facilitation, and evaluation of programmes supported by digital education. Approval procedures supporting the design, development, and facilitation of programmes need to ensure that direct and indirect contact hours offered through synchronous or asynchronous teaching methods, or a combination of both, reflect the credit value of modules and the programme. The curriculum design process should consider programme structure, coherence, and sequencing with reference to the most appropriate design to enable learners to meet intended learning outcomes. A learner-centred design reflecting the principles of good practice will recognise the type of learners likely to engage in the programme and adopt active learning approaches to promote student engagement and high levels of interactivity between teachers and learners and peers.

The teaching, learning and assessment strategies will be explicitly designed for the study mode, the subject discipline, and the intended learning outcomes. Accordingly, it should be apparent how the programme is informed by best practice in the design of blended, hybrid and/or online learning provision. The quality of learning resources also plays a distinctive and critical role. Digital resources should be chosen to ensure alignment with the structure, content and assessment and engage learners through a variety of media, including Open Educational Resources (OER). The time required to engage with learning resources should be calculated as part of the learning design and be proportionate to the credit-value. Learners should also be encouraged to search for, critically review and draw on additional resources as co-constructors of their own learning.

The *Learner Experience Context* addresses the importance of support, promoting high levels of engagement and equality of opportunity. Notably, it includes several additional quality assurance considerations from those appearing in the previous guidelines. This section reflects a much stronger focus on the learner and the quality of their learning experience in programmes supported by digital education. There are four domains:

- Thinking about study
- Learning support and development
- Equality of opportunity
- Learner experience and outcomes

How do the National Guidelines address additional quality considerations for online programmes?

The National Guidelines assume that most quality assurance considerations and related good practice indicators apply to all programmes supported by digital education—irrespective of study mode. This assumption is supported by an analysis of the relevant literature undertaken in the development of the guidelines. However, the analysis also revealed several additional quality considerations that providers who offer fully online learning programmes may need to address under each context. Examples of such quality considerations include readiness; digital skills; the mix of synchronous and asynchronous delivery; the design and development procedures for approving and updating learning materials; the accessibility of learning resources; the arrangements for student support, development and career guidance; academic integrity; and learners who reside outside of the country.

How might different providers use these guidelines?

A university with mature quality assurance processes is likely to use these guidelines differently from a large private provider or small independent training organisation. After all, Irish universities have more statutory independence and are required to meet European Standards and Guidelines (ESG), which apply to all higher education offered in the European Higher Education Area (EHEA), in whatever format, duration or study mode (European Association for Quality Assurance in Higher Education et al., 2015). Accordingly, universities and other higher education institutions would be advised to use the guidelines and take cognisance of the good practice indicators alongside existing European and industry professional standards to meet validation and accreditation requirements where they elaborate on specific aspects of quality assurance for blended, hybrid and online learning. Large higher education institutions may also take advantage of the guidelines to undertake cyclical programme and institution-wide self-assessment of their digital education provision to promote quality enhancement, benchmarking with other providers and for planning of future developments.

How can providers document evidence of their good practice?

The answer to the above question depends on how education providers already engage in quality assurance and how the new National Guidelines mesh with existing procedures. In recognition of this point, the scoping and good practice statements illustrate how the sum of the whole is greater than the individual parts. The intention is that the 16 Good Practice Statements provide a framing point of reference which help providers to respond to the guidelines in a more holistic

manner, consistent with a contemporary approach to quality assurance focusing on building a culture of continuous improvement. They are intended to help education providers keep sight of the bigger picture, especially when some of the specific quality indicators may not apply to them.

Conclusion

Overall this paper's main contribution to the field is to illustrate through the Irish experience what types of quality assurance standards, indicators and processes are required to support new and emerging blended, hybrid and/or online learning study modes. More specifically, the paper makes three useful contributions to the literature and the wider international community interested in the quality assurance of digital higher education. Firstly, it illustrates how one European country has chosen to address the challenge of quality assurance in response to the rapid acceleration of digital delivery models and campuses. Secondly, the paper challenges other country and regional jurisdictions and individual education providers to review the fit-for-purpose state of their existing quality assurance, standards, indicators and processes with a view to adopting a more multi-layered approach, which places a stronger focus on the learner. The new National Guidelines for Ireland described in this paper are distinctive in this respect. Finally, returning to the chocolate analogy, the paper helps to critically reflect on the taste, variety and currency of existing quality assurance frameworks for blended, hybrid and online learning contexts. The research informing the development of the guidelines helps to identify key gaps in many existing quality assurance frameworks and provides valuable insights and lessons from the Irish experience to help inform future developments in quality assurance for digital education in the wider international context. Crucially, the paper challenges the assumption that existing quality assurance frameworks remain fit-for-purpose in the new era of digital education and the unscripted world of generative Artificial Intelligence.

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A hopeful future? Preparedness and feelings of optimism-pessimism about the future of post-secondary education in Canada and the USA

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The COVID-19 pandemic was a landmark moment in post-secondary education in Canada and the USA. Although the rapid transition to emergency remote learning was wrought with challenges, it sparked overall growth in online and hybrid course offerings that continued after health restrictions were lifted. As the pandemic dust settles and our new learning landscape takes shape, it is apparent that technology-integrated learning will play a far more prevalent and pervasive role than pre-pandemic.

During the pandemic, many administrators, faculty, and students in these countries became more comfortable using technology in educational contexts, which has led to a greater demand for flexible, technology-supported learning among students. The launch of AI-powered ChatGPT in late 2022, followed by its widespread adoption by the general public, has also raised questions for post-secondary education, particularly regarding traditional forms of assessment and academic integrity. Considering the changes to teaching and learning practices brought about by the pandemic and the potential impacts of the growing influence of AI, one may wonder whether those working on the front lines of post-secondary education expect a sense of stability soon or ongoing change going forward. To better understand the range of perspectives about the future within post-secondary education, this study investigates the following research questions: 1) To what extent do those working at post-secondary institutions expect the future of post-secondary education to change over the next five years compared to the present state? 2) Do they feel ready for the changes that the future might bring? 3) Are they feeling optimistic or pessimistic about the future?

In Spring 2023, the Canadian Digital Learning Research Association (CDLRA) and Bay View Analytics partnered to conduct a study that sought to explore perceptions of the future, perceptions of readiness for future changes, and feelings of optimism or pessimism about the future within post-secondary education. Data for this study was collected through two surveys: one conducted in Canada by the Canadian Digital Learning Research Association (CDLRA) and the other conducted in the USA by Bay View Analytics. The two organizations worked in partnership, and the same questions about future perceptions were asked in both surveys, with one additional question asked in the USA. Participants in both countries included post-secondary education administrators, teaching and learning leaders, and faculty. In the USA, 224 participants completed the survey, and approximately 400 participants¹ completed the Canadian survey.

The survey responses showed that nearly all participants in both countries expect post-secondary education to be different from the present state in five years. Roughly one-quarter² of participants expect that post-secondary education will be very different from its current state in

five years, and more than half expect it to be somewhat different. Very few participants (less than 5%) expected post-secondary education to be the same as it is now in five years. Considering that most participants expect changes within post-secondary education to some extent, did they feel prepared for a different future? A substantial minority of participants (approximately one-quarter to one-third) indicated that they feel ready for future changes. Additionally, roughly one-half of the participants felt somewhat ready. There were less than one-quarter who reported they did not feel ready.

Canadians were far more likely than their US counterparts to feel optimistic about the overall future of post-secondary education in the next five years. More than half of Canadian participants reported feeling optimistic or very optimistic, whereas only 27% of US participants reported feeling optimistic (22%) or very optimistic (5%). Of the Canadian participants who did not report feelings of optimism, most reported neutrality. Fewer than 15% of Canadian participants reported feeling pessimistic, and very few (less than 5%) reported feeling very pessimistic. Conversely, 39% of US respondents reported feeling pessimistic, and 9% reported feeling very pessimistic. One-quarter of US participants reported neutrality, similar to the proportion of Canadians who provided a neutral response.

Although nearly half of US respondents (49%) expressed pessimism about the overall future of post-secondary education, they were much less pessimistic when asked about their personal future of post-secondary education in the next five years. The Canadian version of the survey did not ask a question about optimism or pessimism about one's personal future in post-secondary education over the next five years. Both surveys also asked participants to provide any additional thoughts or information that would provide context to their responses³.

This study builds on previous work done jointly by the CDLRA and Bay View Analytics within the first year of the COVID-19 pandemic (Johnson, 2020; Johnson & Veletsianos, 2020; Johnson et al., 2021). Together, the organizations conducted surveys that asked questions related to feelings of optimism and pessimism about the future of post-secondary education. In the first few months of the pandemic, Canadian and US participants showed similar levels of optimism about the overall future of post-secondary education (48% of Canadian participants reported optimism, as did 46% of US participants). By the fall of 2020, however, a second survey in Canada showed that 69% of Canadian respondents reported feelings of optimism, and only 15% reported feelings of pessimism. The 2023 findings from Canada are comparable to the Canadian findings from the fall of 2020; however, the US findings show a decrease in optimism. Despite the regional differences, every round of the surveys for both countries indicated that there were more optimistic respondents than pessimistic ones.

Overall, the 2023 survey findings from both countries suggest that the majority of participants expect the future to be different from the present and are feeling ready to some extent for these changes. Feelings of optimism and pessimism vary by country and might be explained by contextual factors unique to the differences between Canadian and US culture and policies. Continued investigation of these factors is necessary to assess whether feelings of readiness and optimism or pessimism change over the next few years as technological advances and crisis events (e.g., pandemics, climate change, political unrest) impact post-secondary education.

¹The survey close date for the Canadian survey is June 30, 2023, so the final participant count could not be provided for the purposes of this submission. Exact participant counts will be provided in the full paper and conference presentation should it be accepted. The preliminary findings show clear patterns that are not expected to change significantly in the final results.

²The final paper and presentation will provide exact percentages rather than approximations when stating the findings. Crosstabulations highlighting the relationship between responses will also be provided.

³A thematic qualitative analysis of the open-ended responses using a constant comparative approach will be performed, and the findings will also be included in the final paper and presentation.

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A growing market: OER trends over time in the USA and Canada

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This study examines a decade's worth of data collected on open educational resources (OER) in Canada and the USA to identify changing trends over time. Bay View Analytics in the USA has been gathering data and publishing OER reports since 2012. When the Canadian Digital Learning Research Association (CDLRA) launched in 2017, the association partnered with Bay View Analytics to ask similar questions about OER in the Canadian context. The following research question guided the study: How have OER awareness and use changed over time?

In the various iterations of the surveys over the years, the definition and descriptions of OER provided to participants drew upon the definition put forth by the William and Flora Hewlett Foundation (Wickline, 2013):

OER are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge. (Seaman & Seaman, 2022, p. 4)

It is also important to acknowledge that there is a broader field of scholarship on open education, including open educational practices and OER. Scholarship on openness is continually evolving as technology evolves and the lines defining what qualifies something to be classified as an OER are not always clear. For the purposes of this study, the focus will be specifically on OER, as it is defined above.

A secondary analysis of the data collected by Bay View Analytics and the CDLRA was performed to identify patterns and trends related to the awareness and use of OER from 2012 through 2023. Survey respondents were asked to provide their level of awareness of OER from "very aware," "aware," "somewhat aware," "heard of," and "not aware." For more detailed analyses, similar questions across surveys were grouped together, and the aggregate responses were compared with one another to assess whether any change had occurred and in what ways. Responses to relevant open-ended responses were also explored to identify patterns and common themes. Participants in the initial research studies included post-secondary education administrators and faculty.

The analysis revealed an increased awareness of OER use over time and helped identify barriers to OER adoption. The analysis also showed that, as many more faculty now have experience with teaching online, attitudes toward digital materials are changing for the better. Additionally, the array of high-quality OER materials continues to grow. Many institutions now understand the power of an OER initiative as a tool to encourage OER adoption and use. For example, Bay View Analytics surveys have shown increasing levels of OER awareness among US faculty beginning in 2009. In 2009, according to the survey findings, OER awareness was almost nonexistent.

Awareness has grown year over year, with the 2022 data showing 46% of faculty as “Aware” or “Very aware” and another 11% saying that they are “Somewhat Aware.” This means that more than 50% of US faculty are now aware of OER at some level. While important, awareness of OER has not necessarily meant faculty are using it in classrooms. Much like the pattern for OER awareness, OER use in the US in 2009 was too low to be reliably measured. It wasn’t until 2016 that 5% of faculty said they used OER in their courses as required materials. That figure quadrupled to 22% in 2022.

The survey findings over the years also found that not all faculty were equally likely to consider OER. There were some common characteristics for OER users. Faculty most likely to consider OER were those teaching online (typically because they are more aware and appreciative of digital resources), those most concerned with the cost of materials for their students, and those making significant changes to their course content. Early Bay View Analytics surveys showed that some suspicion about the quality of OER materials prevented its adoption. The general refrain was, “How can it be any good if it’s free?” While this barrier still exists, it is much less of an issue. The latest surveys have shown that the ratings that faculty gave their required materials are now higher for OER sources than for commercial publishers.

Will the steady growth in OER awareness and adoption continue? Many factors suggest as much. For instance, the CDLRA data for 2022 showed that many respondents (62%) agreed that their institution encouraged faculty use of OER. Roughly one-half of respondents agreed that support for the use of OER at their institution was likely to increase over the next two years and another 36% expected the current level of support likely to continue. Faculty awareness of OER appeared to be the main barrier in Canada in 2022 with only 23% of respondents agreeing that faculty were familiar with the OER available to them.

At the same time it is important to remember that commercial publishers still have superior marketing and publicity arms, and they have substantially changed their distribution process to embrace digital and subscription approaches (including “inclusive access” models). While CDLRA data showed that 56% of Canadian faculty report that using OER has allowed them to change the way that they teach, US data shows faculty are just as likely to retain, reuse, revise, remix, and redistribute commercial products as they are OER, activities often discussed as unique benefits of OER.

Ultimately, OER use is a growing market, and awareness of OER is steadily increasing over time. Considering the heightened integration of technology in teaching and learning over the past few years, largely due to the COVID-19 pandemic, it is reasonable to anticipate that OER use will continue to grow. One limitation of this study is that it only captures OER trends within post-secondary education in Canada and the USA. Future research that explores global phenomena related to OER awareness, adoption, and use will be beneficial for developing and strengthening OER initiatives and policies more broadly. Bay View Analytics and the CDLRA are seeking to expand this research globally and are actively searching for interested partners from other countries. The inherently shareable nature of OER also provides strong support for multi-country research efforts to support the creation of OER that is useful on a global scale.

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Massive machine translation of OER textbooks

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OER can serve a much broader community if available in multiple languages. LibreTexts has built a Polyglot Engine for bulk translation of its online textbooks. To date we have translated 1000 textbooks into Spanish <https://espanol.libretexts.org/> and Ukrainian <https://ukrayinska.libretexts.org/> and 50 each into French, Portuguese, Kiswahili, Arabic, Hindi and Chinese <https://query.libretexts.org/>. The uniform format of LibreTexts books makes this possible, but in principle LibreTexts can accommodate any Unicode available language and the Polyglot Engine can produce translated texts between them. As AI machine translation improves not only will the translations into major languages improve, but also it will become possible to translate into those used by smaller groups of people.

The LibreTexts project is an OER initiative that provides free accessible textbooks and learning materials to students across a broad range of academic disciplines. It was launched in 2008 with the goal of reducing the cost of textbooks and expanding access to educational resources. The project strives to promote open education and democratize access to knowledge by providing high-quality educational resources that are free to use and customize.

OERs benefit students not only by being free, but also accessible online, customizable to individual needs, fostering collaboration, offering updated and diverse content, developing skills, and having a global reach. This is particularly crucial for students facing challenges such as food or housing insecurity, but new research shows that students in general learn better when using OER rather than costly commercial materials. Over the past 15 years, LibreTexts has grown into the largest and most popular online central repository of OER content for students to access. Since 2008, we have distributed over 1 billion pagesviews with over 400,000 PDF downloads and ~5 millennia of confirmed student reading.

Traditionally, OER has been predominantly centered around English, with approximately 90% of all OER using this language. This is due to the dominance of English in academia worldwide and the challenges and expenses associated with translating OER into other languages. However, the emergence of modern machine translation algorithms has revolutionized this situation. Although machine translation outputs still have an accuracy range of 60-95% depending on the specific languages, their implementation has proven to be more efficient (both in terms of finances and effort) compared to human translation efforts, which are limited in scale and come with significant costs; 94% of the global population does not have English as their native language, and 75% of individuals have no command of English at all. This highlights the widespread linguistic diversity across the world. Currently, there are approximately 220 million post-secondary education students worldwide, a significant increase from 100 million in the year 2000. Notably, Latin America and the Caribbean have witnessed a doubling in the number of students enrolled in post-secondary programs over the past decade. These figures emphasize the growing demand and importance of serving non-English speaking students and addressing the unique educational needs of diverse populations.

The Polyglot Engine machine translations from English into other major languages are useable, but not perfect which brings us to this ICDE conference. We need the help of those fluent in the translated languages to help polish the texts. For example, we recently were told that our

Portuguese translation of a chemistry book had mixed up Moles (a quantity) with moles (a small mammal). Again, because LibreTexts have a uniform format, we could do a global find and replace, but this is the sort of problem that we really need help with.

LibreTexts seeks to establish a global network focused on large-scale construction and translation editing efforts. This network will bring together diverse stakeholders and collaborators who are passionate about improving and expanding OER content. By fostering collaboration and leveraging the expertise of contributors worldwide, the network will work towards creating high-quality OER materials that can benefit students globally. Because the polishing step will be done by subject matter experts, we anticipate a secondary effect will be to improve machine translation by providing a large body of higher education teaching materials for AI to use as data. Although this project focuses on languages for which a great deal of technical literature exists, the eventual hope is to expand to other languages, eventually including those spoken by indigenous groups worldwide.

This process started in 2018 when LibreTexts opened a library for textbooks in Spanish. There were only a few books, but they were intensely used. Growth of the library was very slow because it was constructed by individuals translating the material. Two years ago, the opportunity presented itself to test online translation in 81 languages using Amazon Web Service's machine translation engine with the sponsorship of NICE CXOne, LibreTexts host. Although successful as a test, there were issues, including inability to translate text embedded into figures, the difficulty that the translation had with equations and similar things. What the test did was delineate the promise and limitations of machine translation. While the results were readable, they were, in part awkward and needed human intervention to bring up to the level desired for textbooks, 90% accurate is usable, but 100%, or close, is the goal for an attractive textbook. In the months following LibreTexts continued to explore how to best structure a translation program. Of course, cost was a major issue. With our 2000+ book library, the cost of translation into a single language is about \$25,000.

The Russian attack on the Ukraine displaced millions of students. At first, we simply set up on the fly machine translation of the libraries into Ukrainian which could be accessed from any page. However, such translations are not editable, which, for OER, is a major lack. LibreTexts approached Amazon Web Services for support to translate our libraries in bulk into Ukrainian providing source data which could be read, used and edited and AWS agreed to sponsor the project. We first published the very first Ukrainian LibreText, Introduction to Psychology using @AWS translate and now 200,000 pages of new Ukrainian OER are available.

In parallel we were able to bulk translate the same books into Spanish. The goal there was to assess the impact in a widely spoken language. The results of this test were extremely encouraging, with a remarkable 17-fold increase in traffic to the Spanish library. Weekly visits surged from 28,000 to 470,000 and the numbers continue to grow steadily.

By extrapolation of the case study, it is estimated that annual page views of these books could reach 24 million. Although it remains uncertain when this growth will plateau, the continuous upward trajectory observed in LibreTexts' growth trends suggests that it will continue to expand for some time. This projection signifies the sustained interest and increasing utilization of LibreTexts, indicating its potential for continued growth and impact.

Our ambition is to extend this project to other languages (for which we are seeking funding) and to have others join us in the process of editing to bring the machine translations up to standard.

Equitable access to higher education for students with disabilities during the artificial intelligence age in South Africa: A conceptual framework

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This paper highlights factors that either inhibit or reinforce inclusive learning for students with disabilities (SwDs) within the context of the transformation of higher education in South Africa during this digital transformation era. A conceptual framework for understanding 'Education 4.0' within the context of transformation of the South African higher education which first emerged in 2020, was utilized. It consisted of antecedents, attributes, and consequences among others, towards adequately designing an inclusive teaching and learning enterprise. It suggests that if 'Education 4.0' is appropriately configured, it could result in positive consequences towards realizing the above-mentioned transformation goals and the sustainable development goal (SDG) 4 which promotes inclusion in higher education. In this research, however, the framework towards 'education 4.0' is applied to establish progress made in addressing the needs of SwDs within the South African Open Distance Learning environment. Following the review of existing scholarly work and reports, it emerges that while research on this subject has grown in few years, it mainly focused on student support - little has been done to inform relevant educational policies. As such, little has been done by government and higher education institutions to amend policies in order to address issues of digital divide through infrastructure development, and those of university staff capacity development to support SwDs. This results in staff's resistance to change and thus, deepened educational inequalities. These findings therefore, shed light on the best practices as well as the existing gaps towards ensuring accessible quality higher education for SwDs during this era.

Exploring Gaps in the Quality Assurance of Micro-Credentials: A Global Scoping Review of Current Practices

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Introduction

This paper presents an analysis of how quality assurance (QA) agencies and a purposively selected sample of higher education institutions (HEIs) across OECD member countries and the European Higher Education Area (EHEA) are assuring the quality of micro-credentials. The focus on quality assurance is timely as a recent US survey of over 500 employers found that while they value micro-credentials, they do not know how to assess their quality (Collegis Education, 2023). While there has been progress in the development of frameworks, regulations and funding support over the last few years, the institutional adoption of micro-credentials remains in developmental stages (HolonIQ, 2023). It is generally accepted that realising the full potential of micro-credentials will require important changes to quality assurance and academic recognition policies (Kato, Györfi & Weko, 2023). Robust quality assurance can establish a foundation of trust among employers and HEIs that supports the academic recognition of micro-credentials.

Micro-credential means the record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes will have been assessed against transparent and clearly defined criteria. Learning experiences leading to micro-credentials are designed to provide the learner with specific knowledge, skills and competences that respond to societal, personal, cultural or labour market needs. Micro-credentials are owned by the learner, can be shared and are portable. They may be stand-alone or combined into larger credentials. They are underpinned by quality assurance following agreed standards in the relevant sector or area of activity (European Commission, 2022, p. 13).

Background

In late 2020, as part of the EU-funded Microbol initiative, a 2-year project, co-funded by Erasmus+ KA3 Support to Policy Reform, a survey was sent to the members of the Bologna Follow-up Group (BFUG) as well as the nominated representatives in the MICROBOL working groups with the aim of gaining a picture on the state of play of micro-credentials in the targeted European countries (Microbol, 2021). The findings, which represent 35 European countries, indicate the extent to which micro-credentials are included in national quality assurance systems. While the findings reveal that only two countries explicitly mention micro-credentials, the majority (15) reported that “even if they are not explicitly mentioned in the QA system at national level, they implicitly fall under it” (Microbol, 2021, p. 33).

Methodological approach

This section describes the methodological approach to researching both the external and internal quality assurance of micro-credentials. It outlines the desk research undertaken of publicly available information from national QA agencies and how data was collected using a purposive sample of higher education institutions likely to have more mature micro-credentials implementation strategies. Efforts to triangulate the findings and gather further information are also described through follow up conversations with key stakeholders.

Research questions

The research was undertaken from the start of February to the end of March 2023 to help answer the following research questions:

RQ1: What research has already been undertaken on how external QA agencies are responding to micro-credentials?

RQ2: How are external QA agencies currently assuring the quality of micro-credentials?

RQ3: What institutional practices have been adopted for the development and quality assurance of micro-credentials?

RQ4: What institutional supports are available for the development of high-quality micro-credentials?

Sample selection

Initially, to answer RQ1 and RQ2, a sample of external QA agencies and relevant contact details were obtained using the publicly available membership database on the website of the International Network for Quality Assurance Agencies in Higher Education (INQAAHE). This sample consisted of a selection of 35 QA agencies and related professional bodies worldwide.

Main findings

The first section describes how QA agencies across the OECD are responding to the growth of micro-credentials. The next section discusses how institutions are responding to and developing their own QA practices and processes in response to micro-credentials. More specifically, it presents findings from Australia, Canada and Ireland based on a systematic search of major micro-credential portals and institutional websites.

Response of QA agencies

Based on the analysis of regional and national QA agencies websites, related pilot initiatives and working group reports, and follow up conversations with many key stakeholders involved in QA across OECD jurisdictions, there are three main ways in which countries are approaching the external QA of micro-credentials. Figure 1 provides a helicopter overview of the current situation across OECD jurisdictions. The most common status found in 25+ countries is that there are no specific QA standards for micro-credentials. However, the current situation is quite fluid with many of the QA agencies in these countries indicating they plan initiatives in the next one to three years.

In six countries, involving nine QA agencies or accrediting bodies, an intentional decision has been made to apply existing common standards and processes to the assuring the quality of micro-credentials. Only in three countries, New Zealand, Malaysia, and Ireland have there been initiatives to develop specific standards and QA requirements related to micro-credentials. In the case of Ireland, this initiative is part of a wider project by Quality and Qualifications Ireland (QQI) to develop new statutory QA guidelines for programmes supported by digital education.

A more detailed analysis of the status of the QA for micro-credentials across OECD jurisdictions is possible by adopting a taxonomy developed by Ossiannilsson et al. (2015), which was also recently applied to an analysis of quality assurance for digital higher education by Stiring et al. (2022). This work is relevant as the desk research found that a high proportion of micro-credentials offered by HEIs, and other types of providers, are offered partially or fully online. Thus, either directly or indirectly, quality assurance initiatives in countries that have developed specific guidelines for digital higher education also apply or have relevance to micro-credentials even though they may not be explicitly referenced. Table 1 below presents the taxonomy consisting of three distinct categories with several subgroups.

Two subgroups fall within this category. In the first group of tertiary education systems (25+ in total), no separate or additional standards or procedures for the external QA of micro-credentials could be found. In these systems, QA agencies appear to apply common standards and processes for the evaluation of education providers and programmes, regardless of delivery mode or type of programme. In all these systems no explicit reference is made to micro-credentials and there is no specific quality assurance requirement. However, there is evidence in many cases of countries and respective QA agencies indicating they plan to pilot or address quality considerations in the future, with a preference towards an integrated approach to quality assurance.

In the second group of tertiary education systems (9 in total in 6 countries), existing common standards are already being planned to be applied for micro-credentials. Their application is an intentional decision in these jurisdictions to adopt an integrated approach to assuring the quality of micro-credentials using existing standards and processes, with HEIs and other types of providers responsible for their own internal quality assurance. This decision is evidenced by the Micro-credential Framework for British Columbia, Canada, as shown in Figure 2. The extent to which tertiary education providers are transparent about the way they apply these common standards is reported further below in this paper.

A second category of tertiary education system reflects an effort in two jurisdictions (Ontario, Canada, and the United Kingdom) to develop optional guidelines for the QA of micro-credentials. The United Kingdom is particularly interesting as there is also a separate initiative by the British Accreditation Council to develop a voluntary inspection scheme for micro-credentials. Currently, it is unclear how many institutions are actively engaging in this pilot scheme.

A third group of higher education systems (3 in total in 3 countries) has developed separate or additional standards and procedures for the external QA of micro-credentials. Additionally, Germany in a report published at the end of March 2023, following a special MODUS working group established in November 2022, recommended that while micro-credentials should be included in internal QA in accordance with ESG, clear and uniform regulations need to be created for external QA (HRK MODUS, 2023). Germany has previously been critical of micro-credentials fearing they may devalue existing macro-credentials, and this latest report makes a series of recommendations for universities to support QA and strategy development.

In the case of Ireland, micro-credentials are referenced throughout the draft National Statutory Quality Assurance Guidelines for Providers of Programmes Supported by Digital Education. These guidelines have three contexts: organisation, programme, and the learner experience. The National Guidelines place a strong focus on the learner and, like the British Accreditation Council, indicate the importance of equivalency of learning support for learners completing micro-credentials. Moreover, they identify learner readiness to study through digital modes and the importance of fully informing or disclosing to prospective students all key information about the nature of the micro-credential, including the required workload and the types of digital tools and Internet access they will require to be successful.

Institutional supports and resources for micro-credential development

This final section briefly shifts attention to ways of supporting the development of micro-credentials. The research sought to identify the types of supports, resources and infrastructure that can help to mature how institutions develop and assure the quality of their micro-credential offerings. In brief, several toolkits, guides and handbooks for micro-credential development were identified to support education providers to develop micro-credential policies and practices. A detailed description of these resources is beyond the scope of this paper but the study found several valuable initiatives have taken place over the past two-years and more developments are in the pipeline. However, it will be important to connect more strongly some of these activities in the future, especially to address the divide between universities and the training and vocational sectors. Given that short course offerings are not new, universities developing their micro-credential implementation strategies may potentially benefit from closer engagement with other providers. Professional bodies and transnational agencies could play a useful role in this regard in strengthening these connections.

Under 'Plan and Adjust', the SUNY and Charles Stuart university examples underscore the importance of institutional leadership and appropriate organisational structures for micro-credentials. Similarly, the Charles Stuart University Framework for Micro-credentials and Short Courses illustrate the need for explicit consideration of business and resource allocation models. It should be noted that Brown, Peters and McGreal (2023) identify at least eight different types of

business models for micro-credentials. The need for appropriate policies and regulations is self-evident but there are also considerations concerning learning pathways, including Recognition of Prior Learning (RPL) and what account will be taken of obligations and restrictions when learners study micro-credentials from other country jurisdictions. The implications for IT systems cannot be ignored, especially if micro-credentials are intended to provide for flexible learning opportunities.

Under the 'Implement' category, the Australian institutional examples highlight the importance of institutions developing appropriate internal approval processes. However, existing workload models also need to be considered if those teaching micro-credentials are expected to adopt more flexible approaches to the way they teach and support micro-credentials. In the case of fully online micro-credentials, there needs to be evidence those teaching and supporting their delivery have some experience and professional development in how to design and harness the potential of active and highly engaging forms of digital education. Appropriate assessment strategies that challenge learners and provide feedback to students are crucial to a successful micro-credential learning experience. The principles of Assessment OF/FOR/AS learning should be evident in the design of micro-credentials. As previously mentioned, disclosure of information when prospective learners are thinking about study and student readiness to learn online are also important considerations. Learning how to learn online is not something that should be left to osmosis. Other crucial considerations are the amount of time a student needs to allocate for study to be successful and the type of learning support and development opportunities that are available to learners who undertake micro-credentials. The level of access to electronic library resources and other digital content also needs to be clear.

Conclusion

This research set out with the objective to investigate external and internal QA of micro-credentials looking at regional and national QA agencies and institutional practices in OECD member countries. It also sought to understand the types of institutional supports available for the development of high-quality micro-credentials. Four research questions helped to frame the study and we briefly reflect on the answers to these questions.

Firstly, in terms of RQ1, the report provides a synthesis of previous research on how external QA agencies are responding to micro-credentials. It shows a mixed picture in terms of what is already known about the response to the micro-credentialing movement by external QA agencies, with most agencies in OECD jurisdictions yet to intentionally address QA considerations. There are a few notable exceptions.

Secondly, in terms of RQ2, the research was able to show that QA agencies in six countries have made an intentional decision to adopt common QA frameworks and standards for micro-credentials. Most countries included in the sample for this research have yet to consider how best to apply QA to micro-credentials, although there is evidence in Europe that this matter has become a priority and there is a strong predisposition towards an integrated approach. Only three countries have developed specific QA standards or requirements for micro-credentials. Despite limited opportunity to speak directly with many representatives in QA agencies, the

research was successful in helping to shed further light on the current situation regarding the external QA of micro-credentials.

Thirdly, in terms of RQ3, the research adopted a systematic sample recruitment and search strategy looking at early pioneers and those institutions most likely to be more mature in their micro-credential development strategies. The results were mixed, with relatively few publicly available examples of well-developed policies and QA processes for micro-credentials. In this respect, the research has contributed to new knowledge and shown that local institutional autonomy for QA and the processes put in place should not be hidden from the public and learners in particular. Moreover, prospective students would benefit from greater disclosure of information when making choices about whether to undertake a micro-credential. National micro-credential portals are deficient in addressing this gap, with lack of career support and evaluation and output data. There is also considerable ambiguity over what types of student support and development services are available to learners when completing a micro-credential. Overall, the research establishes a useful baseline of current institutional practice which should help to assess progress over the next few years.

Finally, in terms of RQ4, the research found several useful resources playing a valuable role in helping to mature the micro-credential ecosystem locally, nationally, and internationally. While this aspect of the study is not reported in detail, the value of collaboration, strategic partnerships and building strong communities of practice stand out from this line of research along with the valuable role that professional bodies, governments and transnational agencies can play.

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Reflections on building a European Open Education Network: Community as a keystone to consolidate Open Educational Practice in the educational space

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Introduction

This paper critically reflects on the experiences of the past three years of building a European Open Education Network through the ENCORE+ (n.d.) project. The European Network for Catalysing Open Resources in Education project, known more commonly through the ENCORE acronym, is a major Erasmus+ funded initiative. With European Commission funding the initiative supports the development of a European network for transforming learning through open education. The key method of action is to defragment, coordinate and catalyse siloed practices across academia and business at the European level. Programmatically, this has been achieved through a series of thematic and cross-cutting seminars, presentations and workshops that have engaged a wide range of stakeholders. The expected effect of these actions is that OER-based innovation practices are more fully integrated and coordinated across the European Education Area.

ENCORE+ is grounded in the belief that “everyone should have the freedom to use, customise, improve and redistribute educational resources without constraint” (Cape Town Open Education Declaration, 2007). The UNESCO (2019) recommendation on OER was an important step in providing a policy manifesto to support the mainstreaming of Open Educational Resources (OER). However there is more work to be done, to make open education a core feature of the European educational landscape. Part of this future work is concerned with finding possible ways of operationalizing UNESCO’s recommendations from a contextualised approach within Europe. This includes identifying meaningful connections among relevant topics such as employment, or innovation and cooperation in business and academia that has resulted in a set of targeted recommendations for policy makers and practical stakeholder guidance.

How Encore has built a European Network

ENCORE+ has built a community of more than 500 active members since 2020. We have done this by researching, having constant dialogue with relevant stakeholders, and collecting and sharing good practice examples, strategies and innovation on key topics such as Policies & Practice,

Innovation & business models, Quality and Technology. We have developed, co-created and shared our knowledge with our network in a community of practice through a series of network events, focus groups, workshops and contributions to conferences.

Our activity over the last few years has surfaced important insights for the European OER ecosystem, which has many distinctive challenges. The COVID-19 pandemic brought about a large-scale switch to digital education but readiness for the uptake of OER provision within that process proved to be low. The lack of face-to-face events and fatigue with videoconferencing lessened opportunities for outreach and community building which impeded the momentum of open education advocacy initiatives like ours. While the European Union has provided strategic funding for open education initiatives over the last twenty years these are often on a short-to-medium term project cycle of up to three years. A longer term perspective on the development of a thriving digital education ecosystem is essential, but this must be complemented by an agile and responsive approach to developments in a fast-moving field.

Perspectives should probably change as the complexity of the ongoing innovations in learning do not allow for a binary approach anymore: the open vs proprietary approach has facilitated the growth of interest and awareness around Open Education in the education community, but it is now time to consider open education as part of educational provision, so to “normalise” it (Bax, 2003) and to allow co-living, integrated scenarios where open and non open education opportunities co-exist. Focus should now move to the role of open education and educational resources as catalysts of innovation in and for learning, understood as enablers to transform educational practices by changing the whole teaching and learning processes (Weller, 2010).

In the past few years, the attention of public and private funding seem to have moved to digital transformation and its implications for learning. Within this process, OER and OEP can still play a key role and this is exactly what the project has tried to analyse in its three years of activity.

A related challenge concerns the spread of OER advocacy into areas beyond the core of interested educators, researchers and practitioners. Within these groups, OER enthusiasts are a minority and many outside these communities are completely unaware of OER and the value it offers to teaching and learning. Open approaches to intellectual property may be incorrectly associated with lower or unknown quality, and commercial publishers are keen to reinforce this view as they perceive a threat from not-for-profit publication. Research consistently shows that once educators and learners are familiar with the proposition of OER they are typically highly enthusiastic about its potential (Hilton, 2016; Weller et al., 2015). Among those familiar with OER as a concept, there are whole communities of stakeholders who advocate for open approaches. The value proposition of OER is sound but needs further refinement for different audiences - particularly those outside of education - and there remains much work to be done on advocacy and raising awareness of open approaches.

The concept of value propositions has typically been focused on the educational sector over the business one (Ehlers & Kunze, 2021). In this sense, the network has also considered business perspectives, given their potential role to strategically sustain OER in combination with the state and the OER community (Stacey & Preston, 2017). To this end, technology has been considered as a transversal dimension of Open Learning covering how educational practices are opened and providing the structure for other dimensions (i.e. strategy, leadership, and quality) to be run (dos Santos et al., 2016). This way, technology-related value propositions for business, and

also academia, need of specific technological solutions to be materialised and evidence has pointed out the prominent role of native technological solutions powered by AI instead of adaptable one-off ones (Pérez-Ortiz et al., 2021; Titli et al., 2021). AI-based solutions need to be designed from the perspective of the user experience, rather than the experience of the content (Titli & Burgos, 2020), something that the educational market is already applying with the creation of additional services to learners, so not focusing on the content provision (i.e. recommendations systems, open-source integrated applications, or personalised curricula). This business strategy is aligned with the “normalisation” of the OER when integrated with other processes; they may not have a central role anymore, but, nevertheless, fulfil an essential function considering the whole.

Digital transformation (Orr et al., 2019), augmented by AI technologies, will be a key growth area for education in the near future. The European Commission recognises this and has proposed open frameworks and standardisation of applications and services in order to ease interoperability and the diffusion of innovations. However, higher education institutions are still far from collaborating at scale, which contributes to persistence of those silos. A cultural change in higher education seems both necessary and inevitable if the affordances of digital and open are to be realised in support of educational innovation (Orr et al., 2015). Those organisations fastest to respond to this are likely to be the long term beneficiaries compared with those who retain existing paradigms for knowledge production, dissemination and exchange. Another key element here is the expansion and coordination of informal learning opportunities to mutually complement formal higher education and professional training in support of more responsive training and reskilling (Kasriel, 2017).

Policy remains a crucial vector for change, and in the latter phases of activity ENCORE+ has produced a series of white papers outlining key actions that various stakeholders can take to promote innovation pathways and improve practice regarding the use of OER as a catalyst for innovation in higher education and businesses. The process of policy design is crucial to developing impactful policies and this process needs to be inclusive of all stakeholders to promote critical dialogue, especially if we want to go beyond purely symbolic policies. It is essential that, in order to support the mainstreaming of OER, governments, educational institutions, community agencies, business and industry groups, and other major stakeholders are active partners in policy development (Farrell, et al., 2022).

ENCORE+ has built and strengthened connections between stakeholders in education, business, and policy to create a more cohesive community in order to catalyse open educational practices to encourage the mainstreaming of open education in Europe. This needs to be understood as a further step towards new, cooperative approaches to learning which can operate at the transnational level.

Conclusions

As the project approaches its next phase, we intend to seek new sustainable opportunities (Titli et al., 2020) to continue to build and grow a strong network, voice and advocate for European Open education. It is essential that open approaches to education and training remain foregrounded

in the strategies of national governments and Europe as a whole, thus, ensuring institutional support to enable the harmonisation of related actions in a more efficient and cohesive manner.

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Integrating Experiential Learning into Online Facilitation at the National Open University of Nigeria

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Introduction

The National Open University of Nigeria (NOUN) is a pioneer open-distance eLearning institution in Nigeria that provides distance education through online facilitation, enabling learners from diverse backgrounds to access quality education. As online education becomes prominent, there is a growing awareness of the need to go beyond traditional content delivery methods and incorporate experiential learning opportunities to improve the learning experience and outcomes. It is essential to explore the integration of experiential learning within this context. Integrating experiential learning into online facilitation is critical for increasing student engagement, critical thinking, and knowledge application. NOUN can improve the quality and effectiveness of its online education programmes by incorporating experiential learning into online facilitation.

Experiential learning is a pedagogical approach emphasising active engagement, practical application, and reflection. It provides learners with hands-on experiences, real-world problem-solving, and opportunities to apply theoretical knowledge in practical contexts. Through experiential learning, students can develop critical thinking skills, improve their understanding of concepts, and gain practical skills relevant to their field of study. While the benefits of experiential learning in traditional face-to-face settings are well documented, incorporating experiential learning into online facilitation presents unique challenges. The immersive and interactive elements required for experiential learning are frequently lacking in the online learning environment, characterised by virtual classrooms, asynchronous discussions, and limited physical interaction.

Statement of the Problem

The National Open University of Nigeria (NOUN) has embraced online facilitation to provide flexible and accessible education to diverse students. However, ensuring that online facilitation goes beyond content delivery and effectively incorporates experiential learning opportunities is a significant challenge. In the online learning environment, integrating experiential learning, which emphasises active engagement, practical application, and reflection, presents a unique set of challenges and complexities.

As a result, the potential benefits of experiential learning, such as increased student engagement, critical thinking, and practical skill development, may not be realised to their full potential online. Additionally, assessing practical skills and evaluating learning outcomes related to experiential learning can be challenging online, often relying heavily on traditional assessment methods that may not capture the full range of student's abilities.

Addressing this issue is critical for improving the quality and effectiveness of online facilitation at NOUN. NOUN can create meaningful learning experiences that foster more profound understanding, critical thinking, and the transferability of knowledge and skills by incorporating experiential learning into the online learning environment. However, a comprehensive understanding of the perceptions, challenges, barriers, and potential strategies for integrating experiential learning into online facilitation is required to develop practical approaches and support mechanisms for facilitators.

As a result, there is a need for research and practical initiatives at NOUN to investigate and address the challenges of incorporating experiential learning into online facilitation. NOUN can overcome the barriers and create an engaging and effective online learning environment that promotes experiential learning by identifying best practices, developing guidelines, providing professional development opportunities, and leveraging appropriate educational technologies. The research aims to understand the facilitators' perceptions, strategies and approaches to integrating experiential learning into their online facilitation practices.

Objectives of the study

The study's main objective is to investigate the integration of experiential learning into online facilitation at NOUN. The specific objectives are as follows:

1. To explore the perception of experiential learning by facilitators at NOUN.
2. To assess the current practice of online facilitation at NOUN.
3. To examine the strategies and approaches employed by the facilitators during online facilitation at NOUN.
4. To identify the constraints facilitators face when integrating experiential learning into online facilitation at NOUN.
5. To evaluate the impact of experiential learning on online facilitation at NOUN.

Research questions

The following questions guide this research.

1. What are the facilitators' perspectives at NOUN regarding integrating experiential learning into online facilitation?
2. What strategies and approaches are employed by the facilitators to integrate experiential learning into online facilitation at NOUN?
3. What constraints do facilitators face when integrating experiential learning into online facilitation at NOUN?

Hypothesis

The following null hypothesis will be tested at 95% or 0.05 level of significance.

H_0 : Experiential learning has no impact on online facilitation at NOUN.

Methodology

This study will employ a descriptive research design. A quantitative approach will be used to gain insight into integrating experiential learning into online facilitation at the National Open University of Nigeria (NOUN). The quantitative component will provide broader statistical data on the prevalence and effectiveness of experiential learning in online facilitation. Respondents at NOUN are currently online facilitators and have integrated or attempted to integrate experiential learning into their practices. Sampling criteria may include varying levels of teaching experience, disciplines, and involvement in curriculum development or instructional design. Respondents will be selected using a simple random sampling technique to ensure representation across different disciplines and levels of teaching experience to allow for the generalisation of findings to a broader population of facilitators at NOUN.

A questionnaire will gather quantitative data on facilitators' perceptions, practices, and the impact of integrating experiential learning into online facilitation. The survey may include a Likert scale, multiple-choice, and open-ended questions. The survey will be distributed online to the facilitators at NOUN. Descriptive statistical analysis will be conducted on the quantitative survey data using appropriate statistical software.

Findings

The questionnaire analysis will provide insights into the facilitators' perspectives on integrating experiential learning into online facilitation at NOUN. According to preliminary findings, facilitators recognise the benefits of experiential learning, such as increased student engagement, improved critical thinking skills, and knowledge application in real-world scenarios. They recognise that experiential learning bridges the gap between theory and practise, allowing students to develop practical skills related to their field of study.

However, facilitators face difficulties when incorporating experiential learning into online facilitation. These difficulties may include a lack of hands-on experiences, challenges in creating authentic learning opportunities, and the need for appropriate assessment methods to evaluate practical skills in an online environment. Facilitators emphasise the significance of novel strategies and technologies. Facilitators stress the significance of innovative strategies and technologies that can replicate real-world experiences and provide students with valuable online learning opportunities.

Conclusion

Integrating experiential learning into online facilitation at NOUN has the potential to enhance the quality and effectiveness of online education. By understanding facilitators' perspectives and

addressing the challenges, NOUN can successfully develop strategies to integrate experiential learning into online facilitation. This will lead to more engaging and practical learning experiences for students, promoting their critical thinking, application of knowledge, and readiness for real-world challenges.

How nine Swedish universities jointly developed 40+ online courses in less than six months

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Introduction

The world encounters a rapid change because of digitalization and the green transition. This affects both the public and private sectors. This is of course also the case for Sweden, where the government has introduced several national initiatives. A more short-term initiative is the “Open for the Climate” project where the Government asked nine Swedish universities to develop open online education to support the society’s climate transition. This paper will describe the process and result of the project.

In the 2022, 100 million SEK (9.7 million USD) of the Swedish state budget was allocated for competence development within climate transition related areas for the Swedish industry and workforce. Moreover, in June 2022, nine Swedish universities got a government assignment from the Ministry of Education, for developing open online education for professionals to support the society’s climate transition with a total budget of 17.5 million SEK (1.7 million USD). The mission to the universities was to develop and offer this education during 2022. Uppsala University was assigned as coordinator and the universities should report the result of the government assignment no later than January 25th, 2023.

Method and performance

The time needed for developing a new university course in Sweden is typically 18-24 months and the teachers doing this are often, to a large extent, already allocated to teaching and/or their own research. Therefore, the government’s assignment of developing and giving new courses within a 6 months’ timeframe seemed almost impossible, especially when it was supposed to be coordinated within nine different universities.

To avoid introducing unnecessary limitations for the course formats, it was decided that any kind of open on-line education could be developed within the project’s scope. Many of the courses are asynchronous open on-line MOOCs, but there are also online courses with fixed start and end dates with scheduled lectures and exercises.

The government assignment had a very wide definition of the specific topics for the courses (it said “engineering, science, procurement, computer science and social planning”). The project decided to use a more fine-grained definition made by Vinnova, Sweden’s innovation agency, which covered 13 different topics from business models to electrification. An interesting example of cooperation between the universities was that when the Swedish Tax authority identified the need for more knowledge in climate neutral procurements, three of the universities decided to co-create a MOOC on that topic. Examples of other topics covered are animal welfare, batteries, circular solutions, computer science, hydrogen, and wind power.

Process

The project has been coordinated by Uppsala University and the project group has consisted of one to two employees from each university. The project group has met via Zoom approximately once a month. In addition, there have been activities in the form of workshops and joint seminars. The project management has held the project together and ensured that information has been disseminated and reached all the individual universities. There have also been special meetings about communication and marketing where functions other than the project group members participated, e.g. communicators and teachers. As a large part of the marketing activities has been connected to the Learning for Professionals platform, Mälardalen University together with the project management at Uppsala University have had a central role in driving the project forward.

The joint workshops within the initiative have been positive for all participating universities, both for concrete guidance for those who are developing courses but also for networking and creating a collaborative environment within and between the involved universities. All partners have generously shared experiences, recorded seminars and been available to answer questions.

A good example is the internal seminar “How to create a MOOC” where Luleå University of Technology shared its experiences regarding MOOC education. Teachers, course managers and administrative staff from all nine universities took part. The project group has a long list of areas for several workshops and seminars, e.g., around examination arrangements, multiple-choice questions, pedagogy and guidelines for MOOCs and more.

Throughout the autumn of 2022, the project group has actively discussed different learning platforms to be used and how they can be practically implemented. In particular, the Canvas Catalog platform has been in focus as several universities already use the Canvas learning platform for their regular education. Due to the very tight schedule, most universities were forced to use the learning platforms used for their regular courses.

It has been a learning process and a strength to be able to collaborate and share each other's experiences and lessons during the journey. There has also been an important discussion of the need for clearer guidelines at the university level for open web-based education.

Cooperation

It gives strength that the project includes nine universities in collaboration. This applies both when it comes to checking that the right range of courses is being developed, no overlap occurs, and when the project wants to spread information and market the supply of courses. A mandate from the government where universities jointly offer a wide range of courses in one specific field has a real impact on industry and the surrounding society. Together, we offer a wide range of courses based on the nine universities' expertise, which is attractive to the market.

It is striking what a positive response the mission has received from the surrounding community. Within the project, contacts and networks have been established to ensure that we develop relevant training. Several external actors have highlighted that open online education can be an important piece in the puzzle for climate transition and the shortage of skills facing the industry. They have showed a great commitment and gladly helped spread information about

the assignment. An example is the short information video the project management produced together with STUNS Uppsala, a strategic collaboration hub.

Among other things, a series of joint seminars and information meetings have been organized, some with specially invited participants and some completely open to anyone interested in knowing more. The project management has also been present at various physical and digital events to market and talk about the assignment.

On 25 November, a full day was held in Uppsala on how Open for the Climate can be developed as a national educational platform to support the climate transition. The morning was devoted to internal work where the project group finally met physically and could deepen the discussions about how the universities can cooperate to develop Open for the Climate. In the afternoon, a wide range of stakeholders as state agencies, labor organizations and county councils were invited, partly to talk about Open for the Climate, partly to discuss whether the course offering is right and relevant to the target groups.

Marketing

Early in the assignment, the universities agreed that the course offering would be marketed via the platform *learning for professionals* (www.L4P.se). An already existing platform developed by a project funded by the Swedish Innovation Funding Agency VINNOVA. The platform, originally designed for regular credit-giving course offerings, has during the autumn been extended to meet the needs of open courses within the project.

Developing the platform for the needs of the project has been a key for Open for the Climate. Via the platform, a website was created to present Open for the Climate and the current range of courses. The website also informs users about inspirational occasions offered through short lunch and breakfast seminars. In addition to links to all the courses, a short presentation and a video about the initiative are presented on the website.

The courses have also been advertised on the websites of each university and through campaigns on social media as LinkedIn and Facebook. The project management has also marketed Open for the Climate through dialogue to industry organizations, trade unions, companies, authorities, municipalities, and regions as well as NGOs. In addition, there have been a lot of email contacts and marketing to ensure that the project has been presented at various events.

Discussion and Experience

The preparedness for this assignment offering open online courses varied a lot between the universities. Some had existing infrastructure for producing flexible online education while others had much less experience. The Open for the climate project has been very important for spreading knowledge and experience between the universities. The tight and transparent cooperation in the project was an important success factor. It takes time to break new ground, but the autumn's work has driven development forward and all universities are now, based on each university's individual starting point, better equipped.

The assignment came in June 2022 and despite the power of action and the fact that information and assignments about coming in with proposals for education went out to the respective higher education institution's education organization before the summer holidays, it was a challenge to free up time and resources to make a qualitative and elaborate proposal for new courses. New short-term funding outside of ordinary operations is not always easy to process. Especially not when for several participating universities it was about new forms of education.

It is clear that developing MOOC courses requires more practical and technical support than traditional courses. An important experience is the importance of communicating with clear frameworks and deadlines for teachers and administrative staff. Developing open web-based education is not business as usual, but new approaches are required, both to attract participants and to ensure that the participants are satisfied after completing the course. As the knowledge about the courses often is spread from previous participants to new prospective participants, not only the quality of content is important, but also the information and actual packaging of the course.

An important experience is that MOOCs are not the only option for digital online education. Digital webinars where participants can discuss and interact with each other have attracted a lot of participants, despite tight deadlines for registration. It is a concept that should not be forgotten when talking about open online education.

A positive side effect of the assignment is the exchange of experience and dialogues that have arisen around lifelong learning between the universities. Open for the climate has served as a concrete example with various activities, which has strengthened the academy's development of lifelong learning. For example, in terms of platforms, taxonomy, technical systems, frameworks and communication.

The very tight time frame and limited personnel resources made the Learning for Professionals platform crucial for the success of the project. It would have been impossible for the project group to build such a platform from scratch within the time frame and the national course platforms lack the flexibility to meet the project's needs. This means that the alternative would have been for each university to publish their courses only on their own websites, which would have made it impossible to do any joint marketing within the project and the visibility of the produced courses would have been very low.

In Sweden, university education is free of charge for all citizens and the universities are funded by the government up to a predefined ceiling for the number of students. Because of this ceiling, there are no incentives for the universities to offer education for new student categories. The Open for the Climate governmental assignment made it possible for nine Swedish universities to offer education in a new way for a much wider target group.

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Uppsala University, Lund University, Umeå University, Linköpings University, KTH Royal Institute of Technology, Luleå University of Technology, Mälardalen University, Swedish University of Agricultural Sciences, Chalmers University of Technology

Vinnova, Sweden's innovation agency, <https://www.vinnova.se/en>

<https://learning4professionals.se/>

<https://learning4professionals.greentown.se/oppet-for-klimatet/> (in Swedish)

Recommendation of Pedagogical Strategies based on Socio-affective Scenarios

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1. Introduction

This article presents the process of recommending Pedagogical Strategies based on Socio-affective Scenarios in a Virtual Learning Environment (VLE). In the distance and hybrid modality, one of the main challenges is the analysis of the students' social and affective aspects, because, in these teaching modalities, it is difficult for the professor to visualize the affective expressions and interactions that take place in the VLE. The virtual environment used in this work is the COOperative Learning Network (in Portuguese: ROODA), as it is one of the VLE used in the Brazilian public university and it is possible to analyze the performance of users considering their social and affective dimensions.

Thus, this study consists of six sections. In the second, the Socio-affective Scenarios are indicated. In the third section, the conceptualization of Pedagogical Strategies is pointed out. The fourth section delineates the methodology used, while the fifth section presents the discussion of the results. Finally, in the sixth and last section, the conclusions are listed.

2. Socio-affective Scenarios

The Socio-affective Scenarios using Learning Analytics are the intersection of moods and social indicators (AKAZAKI, MACHADO & BEHAR, 2022). Learning Analytics is the measurement, collection, analysis and reporting of data about students and their contexts, for understanding and optimizing learning and the environments in which it occurs (SIEMENS, 2012). Mood can be: satisfied, dissatisfied, animated, discouraged and undefined affective (LONGHI, 2011; AKAZAKI, MACHADO & BEHAR, 2023). On the other hand, social indicators can be: absence, collaboration, feelings of separation from the class, drop out, informal groups, undefined social and popularity (BEHAR, 2009; AKAZAKI, MACHADO & BEHAR, 2023). Thus, the Socio-affective Scenarios were defined based on interaction data and textual insertions of students, mapped in 13 studies, divided into 5 extension courses, 2 postgraduate subjects and 6 undergraduate subjects that were carried out at VLE ROODA in the years of 2019 and 2020. Thus, a total of 57 Socio-affective Scenarios were found (AKAZAKI, MACHADO & BEHAR, 2022). Therefore, from the Socio-affective Scenarios, the professor can build and plan their Pedagogical Strategies, with the objective of personalizing teaching and learning, discussed below.

3. Pedagogical Strategies based on Socio-affective Scenarios

Pedagogical Strategies are understood as actions that are planned and applied by the professor in their pedagogical practice, aiming to promote the construction of knowledge by students (RIBEIRO, 2019). The elaboration of PS, demands the analysis of a series of issues, such as the teaching modality, the characteristics of the class, the resources, among others (BARVINSKI, 2020). In this study, the Socio-affective Scenarios are considered, that is, the data that demonstrate social aspects, mainly, of interaction and affective aspects that are constituted by moods. In this context, for each Socio-affective Scenario, 6 PS were created, one for each resource used for data analysis, which are Chat, Contacts, Diary, Forum, Library and Webfolio. Therefore, the 57 Socio-affective Scenarios for 6 resources resulted in 342 PS (AKAZAKI et al. 2022; AKAZAKI et al. 2023). These were prepared by a group composed of 15 researchers specializing in Distance Education and subsequently evaluated by 14 of them. Thus, considering the Socio-affective Scenarios and the Pedagogical Strategies, the methodology used to carry out the present study is presented below.

4. Methodology

The methodology was developed in a qualitative approach and used content analysis (BARDIN, 2011). Thus, PS recommendations based on Socio-affective Scenarios were applied in three undergraduate subjects, which took place respectively in the years 2021, 2022 and 2023 at a Brazilian public university. The data collection instrument was the Socio-affective Scenarios and three questionnaires available online. The target audience was 26 students, 18 tutors and 2 professors who participated in the subjects in the hybrid modality and agreed to answer the questionnaire. From the responses, the participants pointed out suggestions for improvements and modifications in the PS recommendation based on Socio-affective Scenarios, as can be seen in the next section.

5. Results

This article presents the process of recommending Pedagogical Strategies based on Socio-affective Scenarios in a Virtual Learning Environment (VLE). To make the recommendation, the researcher identified the Socio-affective Scenario of each student per week. Then, she verified and informed the professor of the 6 corresponding PS, so that he could choose which one to apply and after that, the professor returned the students' evaluation to the researcher. At the end of each of the three subjects, the PS applied and the answers obtained in the questionnaires were analyzed.

Therefore, in the first application, a new Socio-affective Scenario was identified, the "dissatisfied and collaboration and informal groups" and, for it, 6 more PS were created. Afterwards, it was made available to a specialist to analyze the 6 PS and she did not make any changes. In the second subject, a new Socio-affective Scenario was also found that had not been mapped in the 13 studies, the "undefined affective and informal groups" and, in the same way, 6 PS were prepared and the evaluator specialist did not request changes. In the third application, no new Socio-affective Scenario was found and no new PS were developed.

The analysis of the questionnaires pointed out that PS can help professors in scenarios such as disinterest or drop out, provide new ways of organizing resources and understanding students' difficulties. In addition, the strategies contribute to motivation, creation and strengthening of bonds, intensification of interaction, personalization of teaching, expression of emotions, acceptance, approximation and facilitation of student learning. Students consider it important to interact and express their emotions in the VLE, as it can keep the school environment healthy, being fundamental for the individual and class teaching and learning process. Additionally, in the view of the students, the tutors played an important role, as they motivated, accompanied the learning process and answered the students' doubts. In this way, PS were considered important to collaborate with the strengthening of the relationship between professor and student and to meet the socio-affective needs of students.

6. Conclusions

The recommendation of Pedagogical Strategies based on Socio-affective Scenarios were applied in three subjects in a Brazilian public university. Thus, initially there were 57 Socio-affective Scenarios and 342 Pedagogical Strategies (PS). However, at the end of the applications, two more Socio-affective Scenarios were found and their respective 12 PS were elaborated, totaling 59 Scenarios and 354 PS. In addition, students, professors and tutors who participated in the recommendation were invited to answer an online questionnaire. Thus, based on these notes, it was observed that the PS recommendation based on the Socio-affective Scenarios can be a significant instrument of support for the professor, as this type of process helps to personalize teaching and learning, as well as to assist possible people with disabilities to provide more opportunities for inclusion in distance and hybrid classes. It is important to emphasize that the recommendation in the three subjects was made manually, that is, the Socio-affective Scenario of each student was analyzed and one of the 6 PS per week was chosen and applied. However, a resource that makes this recommendation was developed, the Socio-affective Map, but this is in the usability test phase and will be made available in ROODA and for other VLE in the future.

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OPPORTUNITIES OF THE OOFAT MODEL FOR FLEXIBILITY IN POST-PANDEMIC HIGHER EDUCATION

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Before the Covid-19 pandemic, universities were already searching for better flexibility models and practices. The International Council for Open and Distance Education (ICDE) offered a conceptual model for online, open, flexible and technology-enhanced higher education (OOFAT) (Version 1, 2018). The model was applied to 69 institutions in 36 countries, developed to encapsulate the three core processes of higher education provision: Content, Delivery and Recognition; evaluated along the dimensions of flexibility and openness, in which emphasis is placed on the use of technology and new digital tools.

The characteristics of the “new students” who broke into educational institutions, doubling enrollment in Latin America in the last twenty years, challenged traditional educational models, motivating the deepening of digital transformation, the creation of multiple complementary educational services to respond in a more personalized way to the diversity of students. This has motivated the improvement of teaching and learning processes in HEIs using technologies, reconsidered and diversified the roles of teachers, and has allowed us to value the digital capacities and autonomy of students.

During the Covid-19 health emergency, HEIs adopted some elements of distance education as an emergency measure. In the current post-Covid-19 context, many institutions are adopting new technologies used for “long-term” planning that allows for greater adaptability and flexibility in teaching and learning experiences. (Pelletier et al., 2022)

Valuing the lessons learned for education in general, as well as the investments made in technology by the HEIs implies new state policies, and in turn the self-evaluation of the HEIs themselves. The levels of adaptability and flexibility developed in distance higher education in the world is crucial for Latin America due to its low levels of access and completion of studies at a higher level.

For this reason, in a post-pandemic context, the Continental University (UC) of Peru considers it important to resume conceptual models that allow an evaluation of the current situation of the institutions, visualizing the level of key processes in the provision of higher education. at a distance and aspects that must be considered in future strategies for educational innovation and flexibility. (Orr et al., 2018)

Particularly, for countries like Peru, in which distance education was quite restricted before the health emergency, considering that the regulations required 50% attendance of the credits of a university undergraduate program, and in this new post-pandemic context to a maximum of 80% in virtual environments, it is imperative to continue seeking rigorous flexibility alternatives to respond to the characteristics of student diversity.

In this sense, we decided to undergo the self-assessment of the OOFAT Model, considering that among the 36 countries in which it was applied, there were no Peru. In Latin America, the study for the development of the model included information from 15 universities in 8 countries, so the application of this model in a Peruvian university in a post-pandemic context allows

visualizing the model adopted by an HEI in a regulatory rigid context as that of Peru for the provision of blended and distance education. This study allows to identify the current level of the key processes in the provision of education, as well as provides information on the pattern of implementation in the teaching and learning processes of HEIs.

In this paper, the comparison of the UC model with models of institutions in the region evaluated by ICDE during the development of the OOFAT model is carried out, in order to measure the level of innovation that is contemplated in a Peruvian university, under a rigid regulatory context for education. higher education that distinguishes face-to-face, blended and distance study modalities, where the first admits 20% virtuality, the blended 70% and Distance 80% maximum. Following this normative guideline in force in the country, the UC offers undergraduate studies in the three modalities of study.

Among the results of the UC self-assessment using the OOFAT model, we identified that of the three central processes of higher education provision: Content, Delivery and Recognition that the model contemplates, the UJS is focused on Content. This is seen at UC in the flexibility and openness that it has for the delivery and development of content and assessments. In particular, this result reflects the flexibility model that the university calls 3M, which is read as Multicampus (since the student can travel to any of the campuses in the different cities); Multilevel (you can move from technological education to university or postgraduate); and Multimodal (you can take face-to-face or virtual subjects regardless of the modality in which you are officially enrolled), thus combining both face-to-face and the use of technologies and digital platforms that are part of the distance education model to access education services comprehensively.

Innovation in flexibility with the UC 3M model currently allows around 50% of students enrolled for the 2023-10 period (more than 30,000) to benefit from the blended and distance modalities, as well as the mobility that students enjoy face-to-face, preserving the quality of the education service and product.

Regarding the business model obtained using the OOFAT model, UC identifies with the Entrepreneurial business model when applying the self-assessment, according to which the institution focuses on the use of digital technologies to reach new markets through non-traditional channels using products or new or innovative services. This is of special interest to the institution, given that through its flexible modalities, it targets new markets, particularly non-conventional students, who are defined mainly by being workers, so they university deploys for them a series of strategies to support learning, taking into account diversity, as well as a combination of online and offline resources accessible by students. This Entrepreneurial business model contemplates a business strategy aligned with a prospective vision of education, where it seeks to reach new markets, or significantly expand an aspect of OOFAT, such as flexibility in the case of UC.

We propose learning from best practices, for which we compare the results of UC with other institutions evaluated under this model in Latin America, the IACC Professional Institute (IACC) of Chile, and the Universidad del Norte (UNINORTE) of Chile are taken as references. Colombia, since both are HEIs focused on the provision of higher education using distance and hybrid modalities.

Comparing the results of UC with the IACC, this institute contemplates an OOFAT model focused on access, where greater emphasis is placed on the openness of content, support and production of content. (OOFAT, 2018) This model seeks greater accessibility of education, for which it

uses digital technologies and new communication channels. The IACC only contemplates the modality of distance studies, although it makes its physical facilities available to all students.

The business model identified is the Entrepreneurial model, like UC, it contemplates a business strategy aligned with a prospective vision, with the only difference that the institution operates mainly in traditional or non-dynamic networks.

UNINORTE, at the same time, contemplates an OOFAT model for multiple projects. In this model, the institution takes different initiatives, and experiments with different aspects of the OOFAT model, not as a unified strategy. This particular model allows that the institution focuses on the design of content based on its own developments and materials available in open access repositories, while content delivery is available only to students who have paid for the registration or specific value of the course they wish to access through the LMS, also having a fixed schedule for technical support through asynchronous communication channels. Finally, the evaluations are decided by the teaching staff on fixed dates previously established.

Considering that the evaluation was carried out years prior to the pandemic, this experience has fostered innovation and flexibility of UNINORTE processes, to the point where the institution seeks that all university students have a virtual experience in their learning process. This has led the institution to rethink its educational models and draw up new digitization strategies. Recently, the institution shows that it is betting on hybrid teaching-learning models, making use of the introductory experience to this modality of studies applied as emergency measures during the pandemic. (Lorenzo and Martinez, 2022)

These new strategies to be adopted by the institution contrast the business model identified in the OOFAT evaluation in 2018, in which a Business model with a fixed core was identified, a model aligned with a defense strategy, more traditional in terms of the target market, products and services, but innovative in other areas.

Taking into account the IACC and UNINORTE models, as well as the new strategies mentioned for the second, it is shown that regardless of the regulatory contexts that tend to be rigid, it is possible to establish greater flexibility and accessibility in current education models, as well as innovate in these dimensions, taking advantage of the potential of learning from the digital transformation experience by institutions, which could have been strengthened during the pandemic.

In the post-pandemic context, country regulations need to be adapted and updated. We consider it very useful to have models such as OOFAT that recognize the diversity that characterizes institutions, although they share a genuine interest in flexibility and accessibility to respond appropriately to the demands of their own environment.

Given the disruption that the response to the Covid-19 health emergency meant for HEIs, the investments in technology and learning about digital education that they meant, the OOFAT model regains relevance, either for a possible update of the aspects and dimensions that make up, as well as to extend its application, considering that many institutions that did not have distance education now intend to develop.

Particularly in Latin America, where the evolution of distance education is quite uneven, we believe it would be very useful to disseminate the model, both to be used by institutions and to guide underlying policies and regulations. On the other hand, interaction and mutual learning

between institutions, particularly between bimodal or multimodal ones to share the learning of these years, are very opportune to continue innovating and enriching good practices, as well as contributing to improving public policies.

For many regulatory entities, before the pandemic, the prototype of quality education was face-to-face. Today, after millions of people discovered the advantages of a flexible education, distance education is valued much more, so it is appropriate to think of new paradigms that nurture formal education.

Social Media and Digital Communication Tools: Enhancing Collaboration and Knowledge Sharing Among Distance Learners at the National Open University of Nigeria

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Introduction

Distance learning has emerged as a prominent educational approach, particularly with the advent of the digital revolution. The National Open University of Nigeria (NOUN) has embraced online education to cater to the needs of students who are unable to attend traditional brick-and-mortar institutions. This study aims to explore the role of social media and digital communication tools in enhancing collaboration and knowledge sharing among distance learners at NOUN.

By employing qualitative content analysis to report respondent verbatims and utilizing the interview method to gather primary data, this research seeks to provide valuable insights into the experiences and perspectives of distance learners regarding the use of social media and digital communication tools.

Theoretical Framework

The study is grounded in the Social Constructivist Theory, which posits that learning is a socially mediated activity. According to this theory, knowledge is actively constructed through interactions with others and the environment. In the context of distance learning, social media and digital communication tools provide platforms for learners to engage in collaborative activities, share knowledge, and collectively construct meaning. By understanding the underlying theoretical framework, we can better comprehend the significance of these digital tools in facilitating effective communication and knowledge sharing among distance learners.

Methodology:

To capture the experiences and perceptions of distance learners, a qualitative research approach was employed. Semi-structured interviews were conducted with a purposive sample of NOUN students who were currently engaged in distance learning. The interviews allowed for in-depth exploration of the participants' views, experiences, and challenges related to the use of social media and digital communication tools for collaboration and knowledge sharing. The qualitative

content analysis process involved data immersion, coding, and theme development. Verbatim responses were used to ensure the accurate representation of participants' voices.

Findings:

Preliminary studies were carried out and the findings of these pilot study revealed the positive influence of social media and digital communication tools on collaboration and knowledge sharing among distance learners at NOUN. Participants emphasized that these platforms facilitated real-time interaction, group discussions, and the sharing of academic resources. Facebook, WhatsApp, and Google Meet emerged as the most widely used platforms, enabling students to connect, collaborate, and engage in meaningful academic exchanges.

However, the study also identified several challenges that hindered the optimal utilization of these tools. Participants mentioned inconsistent internet connectivity as a significant obstacle, particularly in remote areas with limited infrastructure. Digital literacy gaps were also noted, highlighting the need for comprehensive training and support to enhance students' digital skills. Moreover, concerns about cyberbullying and privacy emerged as valid apprehensions that warrant attention and appropriate safeguards.

Interestingly, the study found that the university's formal learning management system was less frequently utilized for collaboration and knowledge sharing compared to social media platforms. This observation suggests that the integration of social elements into formal learning platforms could foster active participation and engagement among distance learners. It emphasizes the importance of creating a blended learning environment that combines the structured nature of the learning management system with the collaborative and social aspects offered by social media and digital communication tools. It is expected that this study will either confirm or refute the findings of the pilot study.

Implications and Conclusion:

The findings of this study carry significant implications for distance education in Nigeria and beyond. They highlight the importance of harnessing the potential of social media and digital communication tools to facilitate collaboration and knowledge sharing among distance learners. The study also underscores the need for policies and interventions to address the challenges associated with these tools, such as improving digital infrastructure and providing comprehensive digital literacy training. Additionally, ensuring the safety and privacy of learners in the digital space is crucial.

Furthermore, the results point to the need for higher education institutions, such as NOUN, to revisit their digital strategies. Although formal learning management systems are crucial for managing academic activities, they often lack the social elements that engage students. Therefore, educational institutions should consider integrating social media functionalities into these systems or leveraging existing social media platforms to foster a more engaging and collaborative learning environment.

From a policy perspective, the findings of this study reinforce the need to promote digital inclusion and literacy. Policymakers should collaborate with educators and technologists to design and implement policies that ensure equitable access to digital tools and resources, provide digital literacy training, and establish safeguards to protect users' privacy and security.

This research contributes to the ongoing discourse on distance learning, particularly in a less explored context - Nigeria. It provides practical insights for educators, policymakers, and distance learning providers, emphasizing the need to integrate digital tools into pedagogical practices to foster collaborative learning. The study unveils the transformative potential of social media and digital communication tools in distance education, opening up avenues for further research on optimizing these platforms for effective knowledge sharing and collaboration.

In conclusion, this study affirms that social media and digital communication tools have significantly transformed the landscape of distance learning by making education more accessible and interactive. However, the full potential of these tools is yet to be harnessed. By addressing the associated challenges and integrating these tools effectively into learning strategies, higher education institutions can create a more engaging, collaborative, and enriching learning experience for distance learners.

Digital Competence Frameworks and the 2030 Agenda for Sustainable Development: Comparative Analysis

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The European Parliament and the Council of the European Union (2006, 2017) list eight key competences for employability, personal fulfillment, health, citizenship, and social inclusion in a lifelong learning perspective: (a) literacy competence; (b) multilingual competence; (c) mathematical competence and competence in science, technology, and engineering; (d) digital competence; (e) personal, social, and learning to learn competence; (f) citizenship competence; (g) entrepreneurship competence; and (h) cultural awareness and expression competence. Digital competences involve the blend of knowledge, skills, and attitudes related to digital technologies. Several frameworks have been produced for assessing and developing digital competences (Mattar et al., 2022b), as well as assessment instruments (Mattar et al., 2022a).

The 2030 Agenda for Sustainable Development (United Nations, 2015) includes 17 goals and 169 targets, besides a list of indicators for monitoring its progress (United Nations, 2016). Education is spread through the Agenda, specifically in Goal 4: “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.”

This article aims to compare and analyze the 2030 Agenda for Sustainable Development and international digital competence frameworks that focus on education. Studies included in a literature search identified some similarities between these frameworks and the Agenda but did not develop a systematic theoretical comparison (Bälter et al., 2022; Bhargava, 2021; Casañ-Núñez & Scheiding, 2023; Shelyugina et al., 2022).

This study is theoretical and documentary research involving qualitative data analysis through coding and categorization (Saldaña, 2021).

The 2030 Agenda for Sustainable Development does not use “digital competence” or “digital literacy.” However, it claims that information and communication technologies (ICT) have the potential to bridge the digital divide and points to the need for increasing access to technologies, particularly the Internet, in least-developed countries. Target 4.4 reads: “By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship”; 4.b reads: “By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries”; and 9. c reads: “Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020”.

The Agenda also stresses the need to enhance the use of ICT related to gender. Target 4.3 reads: “By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university”, and 5.b: “Enhance the use of

enabling technology, in particular information and communications technology, to promote the empowerment of women.”

Inclusion and gender are not specific concerns for many studied digital competence frameworks. Exceptions made to the UNESCO ICT Competency Framework for Teachers (Unesco, 2018) and the UNESCO Global Framework of Reference on Digital Literacy Skills for Indicator 4.4.2 (Law et al., 2018), part of the Digital Literacy Global Framework (DLGF).

Articles that support TPACK’s (Technological Pedagogical Content Knowledge) development were published before the 2030 agenda; consequently, they do not refer to the document (Koehler & Mishra, 2009; Koehler & Mishra, 2013; Mishra & Koehler, 2006; Mishra & Koehler, 2008)

However, several digital competence frameworks published in the same year or later do not even mention the Agenda 2030 or the Sustainable Development Goals: DigCompOrg — Promoting Effective Digital-Age Learning – A European Framework for Digitally-Competent Educational Organisations (Kampylis et al., 2015), DigCompConsumers — The Digital Competence Framework for Consumers (Brečko et al., 2016), DigCompEdu — European Framework for the Digital Competence of Educators (Punie & Redecker, 2017), ISTE Standards (International Society for Technology in Education, 2021), and DigComp 2.2 — The Digital Competence Framework for Citizens (Vuorikari et al., 2022). On the other hand, the UNESCO ICT Competency Framework for Teachers claims that it directly responds to the 2030 Agenda, and the UNESCO Global Framework of Reference on Digital Literacy Skills for Indicator 4.4.2 aims to serve as the foundation for SDG thematic indicator 4.4.2: “Percentage of youth/adults who have achieved at least a minimum level of proficiency in digital literacy skills.”

It should also be noted that the framework Green Comp – The European Sustainability Competence Framework (Bianchi et al., 2022), which does not focus on educational nor digital competence, present several goals of the 2030 Agenda (United Nations, 2015), which mentions prosperity: “We are determined to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.” (p. 2) and climate issues: a world “in which development and the application of technology are climate-sensitive, respect biodiversity and are resilient.” (p. 4)

This article did not research digital competence frameworks that focus on children, such as Digital Kids Asia-Pacific: Insights into Children’s Digital Citizenship (UNESCO, 2019) and the UNICEF Digital Literacy for Children: Exploring Definitions and Frameworks (Nascimbeni & Vosloo, 2019). A specific reading of the sustainable goals through the lens of digital competence frameworks for children is a suggestion for future works.

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Interweaving Insights: The Role of Electronic Nonverbal Cues (eNVC) in Asynchronous Discussions through Instructors' Lens

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Introduction

Education, as a fundamental social activity, relies on communication for individuals to share meaning. However, nonverbal cues, which constitute an essential component of the communication process, have received scant attention in distance and digital education research. While nonverbal communication is often associated with what is commonly known as body language, it encompasses aspects such as chronemics and silence that can also permeate asynchronous textual communication channels (Burgoon et al., 2022; Knapp et al., 2014). These aspects, when translated into electronic nonverbal cues (eNVC), have the potential to influence the learning process (Al-Tawil, 2019). Yet, the role of eNVC, especially in asynchronous online learning environments, remains under-researched. This paper aims to narrow this gap by exploring the influence of eNVC in asynchronous discussions from the perspective of instructors.

Research Approach and Methodology

This study adopts a qualitative approach and utilizes a/r/tography as its main methodology (LeBlanc & Irwin, 2019), integrated with elements of narrative research methods (Creswell, 2012). Guided by the metaphor of verbal and nonverbal behaviors as analogous to threads in a tapestry, as suggested by Burgoon et al. (2010), the artistic aspect of this study involves creating a tangible tapestry, where verbal cues are compared to horizontal weft threads, interwoven with vertical warp threads representing nonverbal cues in the communication tapestry. This study is grounded in the experiences of three seasoned online instructors (pseudonyms: Kacia, Patricia, and Caitlyn). My role as a researcher-weaver involves intricately weaving their narratives with my own into a tapestry, both metaphorically and literally. In doing so, I experience firsthand how the interplay of verbal and nonverbal strands shapes understanding of the role of eNVC.

The research question guiding this study is: *What aspects of eNVC do instructors perceive as promoting or hindering interaction and engagement in asynchronous online course discussions?*

Instructors' Interpretations of eNVC

The instructors participating in this study discuss the impact of nonverbal cues in online course asynchronous discussions, specifically focusing on chronemics, eSET (style, effort, and tone), visual elements, and silence or absence from the course discussions.

The Role of Chronemics

In asynchronous discussions, the traditional temporal boundaries of a physical classroom are lifted. This shift makes understanding the impact of time on communication a vital aspect of my

exploration into eNVC. The instructors in this study share their perspectives on the influence of chronemics, examining how the use of time shapes learning experiences in asynchronous online environments. Their views are twofold: they consider their own time management and also interpret the meanings their students convey through their use of time.

Instructors' Time: Navigating Engagement, Building Presence, and Maintaining Balance. The three instructors in this study describe how the time they invest in online course discussions can influence their own experiences and those of their students. This time involves planning and preparing course materials, sequencing activities to facilitate learning, and actively participating in asynchronous discussions. Caitlyn's remark, "It is inevitable. You cannot do a good job unless you put in the time," emphasizes the importance of this investment. However, the need to monitor postings in the forums and maintain continuous communication with students adds to the instructors' workload. Although this extra workload can pose challenges, the instructors underscore its positive impact, particularly in cultivating desired learner behaviors through their own actions.

Furthermore, the instructors acknowledge the significance of establishing their presence and setting expectations at the onset of the course. They also underscore the necessity of balancing their involvement to prevent dominating the discussions, while emphasizing that a balance does not mean their total absence from the course discussions. Active engagement remains a key factor, even when creating room for students to form their own perspectives. They concur that meticulously managing their presence — through strategic timing of posts and conscious restraint when necessary — fosters student participation. This balanced and considered approach allows learners to deepen their learning through interaction with peers.

Learners' Time: Balancing Reflection and Engagement, Real and Virtual Time. The instructors also highlight the necessity for students to take time and space away from active course interactions. While these breaks are vital for deeper learning experiences, the instructors acknowledge the associated challenges in a landscape where students function within dual time dimensions—real and virtual. This duality can generate tension as the elasticity of virtual time contends with students' real-time obligations for attention and focus.

Transitioning from the challenge of dual dimensions, the concept of what I refer to as synchronized asynchronicity emerges. This concept, although seemingly contradictory, underscores the necessity for coordinated interactions within asynchronous discussions. While students have the flexibility to post at their convenience, they are also advised to synchronize their interactions with the group's tempo. This strategic pacing facilitates cohesive engagement within the discussion as a collective. Moreover, the timing of posting in the course forums, whether early or late depending on the timeframe of a discussion, can significantly influence interaction with peers. Patricia elaborates on this point, saying, "When people are late, they're out of sync with everybody else...They moved on." Also, the frequency of interactions carries its own implications, often perceived as a marker of student keenness. Yet, the participants consider excessive posting as counterproductive.

Perspectives on eSET: An Exploration of Style, Effort, and Tone

Mirroring vocalics in spoken communication, eSET (Style, Effort, and Tone) plays a critical role in online discussion forums, acting as the voice of a writer in a text-based environment. Style refers to elements such as word choice, sentence structure, and punctuation, which collectively reflect the composition and texture of a post. Effort, evident through the relevance and thoughtfulness of contributions, can be considered as an indicator of a learner's level of engagement in online course discussions. Tone, meanwhile, conveys the writer's attitude towards the topic or readers, subtly influencing the readers' interpretation of the message. Together, these elements form a multifaceted impression of the individual posting, shaping their presence and influence within the asynchronous discussion.

In the evolving digital landscape, where conversational AI platforms like ChatGPT are becoming more prevalent, it becomes paramount to cultivate an instructor's unique human voice in asynchronous discussions. This human voice, reflected in each instructor's eSET, encapsulates their unique characteristics and experiences, fostering a genuine human-to-human connection. Patricia emphasizes the importance of this connection, stating, "I think it's really important that students understand that you are a human like them."

Within the effort aspect of eSET, instructors like Caitlyn highlight the importance of personalized responses to students. She narrates her approach of going the extra mile to understand students' individual circumstances, using a spreadsheet to not only monitor posts but also track students' profiles built from their mini-biographies shared at the start of the course. This methodical tracking and referencing system allows her to tailor interactions, a strategy she deploys to boost overall student engagement by ensuring she maintains individualized responses with all her students.

The notion of effort in eSET extends beyond instructors; it also encompasses students' attempts to increase the clarity of their ideas conveyed through posts. Kacia highlights the importance of synthesis in this context. She challenges the idea that the length of a post determines its quality or the depth of learning. Instead, she asserts that writing concise posts requires effort, but it is necessary to stimulate further inquiry and imagination. Advocating for brevity, Kacia advises students to be succinct, ensuring their messages are substantial in essence. This approach spurs reader curiosity, prompting them to ask questions, and consequently fostering further interaction.

Instructors' Lens on Visual Elements

Visual elements in this context refer to various aspects of eNVC, specifically images and static representations on a computer screen. These include diagrams, illustrations, infographics, emojis, photographs, digital art, and even GIFs that create the illusion of motion. Unique formatting and spacing in posts, along with popular visual elements like emojis and GIFs, play a significant role in expressing emotions and capturing attention in text-based digital spaces.

In this study, instructors hold diverse views on emojis and GIFs. Their perspectives range from considering them essential for conveying positivity and humanizing critical messages, to viewing them as potential contributors to cognitive overload. For instance, Patricia advocates for the

potential of emojis to humanize feedback in asynchronous discussions. Conversely, Kacia raises concerns about their contribution to cognitive overload. These differing viewpoints underscore how the intent and purpose of online interactions shape the use and perception of eNVC, including eSET and visual elements.

Instructors, like Caitlyn, have experimented with various visual tools to stimulate creativity, connection, and engagement in her online classes. These engagement sets, which encompass both social and content interactions, help create an inclusive online environment that caters to individual student preferences and needs. Activities fostering creative expression are associated with deeper learning and stronger social bonds. However, setting up these interactive structures without facilitating dialogue within them could reduce engagement, as indicated by the nonverbal cues associated with silence or absence from course discussions.

Pause, Absence, and Non-Response

In face-to-face communication, silence and pauses serve as critical cues that control conversation flow, indicate contemplation time, or express disagreement indirectly. These pauses are often analyzed from a chronemics perspective, focusing on the time gaps between communications. But what happens when these pauses transform into complete absences in online course discussions, which are spaces specifically structured for interactive learning?

In the context of asynchronous discussions, silence, characterized by a period of inactivity or absence from the course discussions, can offer significant insights. A key advantage of asynchronous discussions is the temporal freedom they provide; students can take time to reflect before contributing to a conversation. However, when reflection extends into complete absence or non-responsiveness, it can threaten engagement. Caitlyn underscores the impact of non-responsiveness on engagement, asserting, "When students ask great questions and then the other person never shows up again...that kills engagement... Engagement has to be a two-way street."

Caitlyn's words highlight the importance of reciprocal participation in asynchronous discussions. She also acknowledges the frustration that students experience when their posts go unanswered. Patricia echoes this sentiment, noting, "The absence of response, or the absence of feedback too, sends a message...it feels like they're being ignored. They don't feel valued." In her statement, Patricia illuminates how students may interpret non-response as neglect, possibly triggering feelings of exclusion or devaluation. Therefore, instructors must be conscious of their own non-responsiveness and the potential negative effects it can have.

Conclusion

This study underscores the crucial role of eNVC in shaping interaction and engagement within asynchronous online learning environments. Through the personal narratives of experienced online instructors, the interplay between verbal and nonverbal cues emerges as a catalyst for fostering deeper learning and meaningful engagement in online course discussion forums.

The findings of this study call for increased attention to the significance of nonverbal cues in digital learning research and practice. As the tapestry of communication within the online learning landscape continues to be woven, the integration of nonverbal cues becomes increasingly essential. Just as verbal cues form an essential component of education, nonverbal cues provide the texture and nuance that contribute to a holistic and immersive educational experience. By embracing and leveraging eNVC, educators and learners alike can cultivate engaging and inclusive online learning spaces that foster deeper connections, encourage active participation, and promote collaborative learning.

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Learners' acceptance and perceived instructional benefits of online facilitation in open and distance learning institutions in Nigeria

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This study investigated learners' acceptance and perceived instructional benefits of online facilitation in open and distance learning institutions in Nigeria. Survey research design was adopted and population of the study was open and distance learning students in approved open and distance learning universities in Nigeria. The only single mode ODL institution and the two oldest ODL dual mode institutions were purposively selected for the study. The total sample size of 829 learners participated in the study. Two research questions and two hypotheses were raised. One instrument was used which is; Open and Distance Learners' Acceptance of Online Facilitation Questionnaire (ODLAOFQ, $r=0.81$). Data collected were analysed using descriptive and inferential statistics. Results showed that 88.1% of the learners perceived online facilitation as desirable because it makes interaction with other students in the class very easy. The F value of 5.024 is statistically significant at 0.05 level of significance. It was therefore recommended that institutions should put into consideration the learners' age and also assist learners with subscribed laptops, internet data in order to sustain their interests in online facilitation.

Threading Humanity Back into Education and Educational Research

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Introduction

Artificial Intelligence (AI) is rapidly permeating the educational landscape, redefining traditional boundaries of knowledge creation and dissemination. However, this proliferation of AI applications underscores the pressing need to reincorporate human experiences in both education and educational research (O'Donnell, 2015). The digital era presents an intriguing paradox; as immersion into the virtual world intensifies, the importance of tactile learning experiences crystallizes. In this paper, we explore the potential of tactile learning as a means of threading humanity back into education and educational research within this AI-dominated era.

Background and Context

Although often overlooked in digital pedagogies, tactile learning provides a unique perspective for knowledge acquisition and cognitive processing, fueling creativity and innovation. It offers an enriched approach to research and cognitive development, complements intellectual exploration, and broadens understanding of intangible ideas. As researchers with a background in education, we embarked on a journey to explore how tactile experiences through weaving, knitting, and rug-making serve as tangible representations of deeper learning and research processes, allowing for direct, physical engagement with ideas and fostering a multi-sensory understanding that complements cognitive processing. Engaging in tactile creation processes facilitated reflexivity in our research journey. Similar to mindfulness practices (Kabat-Zinn, 1994), hands-on activities like weaving and knitting fostered self-reflection and allowed us to examine our research practices and perspectives. The tangible nature of the creation processes also enabled us to embody the research process, contributing to a more nuanced understanding.

Methodology

To explore the potential of tactile learning, we adopted a methodological bricolage approach (Kincheloe, 2001; Kincheloe et al., 2018), positioning ourselves as a/r/tographers. A/r/tography integrates art, research, and teaching, recognizing the interconnectedness of these practices (Irwin, 2008; LeBlanc & Irwin, 2019). This approach enabled us to incorporate artistic processes into our scholarly work, thus acknowledging the value of creativity in the research journey. Moreover, we leaned into the use of reflexive narrative and critical reflexivity as fundamental components of our research practice (Lyle, 2014). Drawing from Cunliffe's work (2016), we reconceptualize reflexivity as a multi-faceted process that allows us to ponder existential questions such as "Who am I?" and "What kind of person do I want to be?" (p. 749). This process encourages us to critically analyze our relationships with others and the world, and to examine the impact of our

interactions. More importantly, it emphasizes the need for conscious, ethical action grounded on rigorous questioning of our past actions and future possibilities. Such a process fosters a profound understanding of our ways of *being* and *becoming*, thereby illuminating paths for improved praxis in our personal and professional lives.

To add another layer to our methodology, we incorporated contemplative pedagogies (Hart, 2004). These pedagogies foster a learning environment that values mindfulness and introspection, alongside creativity, thereby nurturing personal growth together with intellectual development (Flores, 2017; Palalas et al. 2020). This integration provided us with a more holistic, humanistic approach to research, which resonates with our objectives of threading humanity back into the educational process.

Researcher as Weaver and Maker

Expanding our methodological approach, we leaned into the metaphors of weaving, knitting, and rug-making to exemplify how they resonate with the learning and research process. These tangible activities allowed us to interact with ideas in a multi-sensory manner. Active participation in these hands-on activities led to moments of insight that could easily have remained hidden using traditional cognitive procedures. Thus, these activities evolved beyond mere illustrative tools; they became physical expressions of our learning and research process.

To give a practical example, the first author experienced the transformative power of weaving as a tactile learning activity during her doctoral research journey. The handling of physical threads, the twisting, knotting, and interweaving became a tangible metaphor for the intricate processes of exploration of the topic under study. Each thread represented a concept or idea, and the evolving tapestry reflected the progression of understanding.

This act of creation along with the sensory engagement with threads also carved out a meditative and reflexive space, enabling the first author to explore the implications and impact of her research. The tangible nature of the creation process allowed her to embody the research process. It is within this context that she began to see the parallels between her journey as a researcher and that of a weaver and deeper learner. As her fingers moved rhythmically, intertwining strands of thread and strands of knowledge, they bridged the gap between the tactile and the intellectual. This process illuminated the integral relationship between three key elements of deeper learning: mastery, identity, and creativity.

Similarly, the second author has alternately used knitting and rug making to access mindful approaches to thinking through and coming up with creative solutions to complex problems. Through breath and focus on the repetitive movement of fingers, needles, and hooks, she is able to reach a meditative state wherein cognitive and creative processes, normally unconnected, are able to be interwoven – to both form a novel piece of textile art and also arrive at a novel approach to a complex problem. As with the experience of the first author, this process allows the integration of mastery, identity (melding cognitive, metacognitive, and maker perspectives), and creativity.

Tactile Experiences and Deeper Learning

In the context of deeper learning, an umbrella term that encompasses contemporary education approaches and desirable attributes (Hewlett Foundation, 2013), we find distinctive features that aptly parallel the study of similarities between tactile activities and academic activities. Mehta and Fine (2019) effectively describe these features, explaining that deeper learning “emerges at the intersection of three virtues: mastery, identity, and creativity” (p.6). These virtues not only form the cornerstone of deeper learning but also mirror the transformative processes we undergo when engaging in tactile activities.

Mastery, Development, and Growth: Mastery is a key aspect of both tactile activities, such as weaving, and research. In tactile activities, we demonstrate mastery through the development of skills and our capacity to create increasingly intricate patterns. Similarly, in research, mastery emerges from accumulating knowledge, refining research skills, and synthesizing complex ideas and theories. Deeper learning involves achieving such mastery and leveraging it to generate novel insights in our field and human interactions.

Identity as an Evolving Tapestry: Tactile activities like weaving provide a profound reflection of the evolving nature of identity. Researchers’ identities are shaped and transformed as they encounter new knowledge and interact with diverse perspectives. The act of engaging in tactile activities becomes a metaphorical mirror, reflecting the researcher’s personal growth and transformation during the research journey. It highlights the dynamic and ever-evolving nature of identity and the reciprocal relationship between the researcher and their research; the supervisor and the student.

Creativity - Completing the Triad: Creativity is central to both tactile activities and research. In tactile activities, creativity is evident in the uniqueness of the hand-made craft. Similarly, in research, creativity manifests in the originality of the researcher’s study, the emergent processes, and the uniqueness of their findings. Deeper learning fosters this creativity – it involves not only understanding existing knowledge but also generating new ideas, connections, and insights.

Creativity in both tactile activities and research results in generating new perspectives, uncovering novel insights, making connections among previously disparate elements, and addressing complex challenges. By embracing creativity, researchers can make unique contributions to their fields, infusing their work with originality, and inspiring others to think creatively as well.

Discussion and Future Direction

Tactile Learning as an Inclusive and Accessible Research Dissemination Tool: Recognizing the need for academic work to extend beyond the confines of academia and engage a wider audience, tactile learning can be utilized as a tool for fostering inclusivity and accessibility (Downer Anderson, 2023b). A woven tapestry or a rug, for instance, could represent non-traditional, creative ways to disseminate research findings. These tactile representations offer an accessible entry point into understanding complex concepts, bridging the gap between academic discourse and public understanding.

Enhancing Creativity in Academic Pursuits: The creativity cultivated through tactile learning extends beyond the immediate tactile activities themselves. Engaging in hands-on, creative endeavors like weaving and knitting enhance learners' creative-thinking skills, which can be applied across various academic disciplines. The skills and mindset fostered through tactile learning can inspire learners to approach their other academic pursuits with increased creativity, originality, and innovative thinking.

Cultivating Reflection and Present-Moment Awareness: Mindfulness practices play a significant role in fostering reflection and present-moment awareness. Through focus on breath, elements of the moment become clearer for a mindful practitioner. With accompanying stillness and reflection in the moment, elements such as sound, movement, sensation, and the multiple meanings they convey crystallize. In this way, tactile activity – whether it be weaving, knitting, rug hooking, walking, or the simple act of drawing breath into the body and exhaling again, enable the mindful maker to access clarity of insight.

Creating a Holistic and Human-Centered Education: The integration of tactile learning experiences contributes to creating a more holistic and human-centered education in the AI-dominated era. While AI technologies offer numerous benefits, they cannot replace the affordances of human experiences, creativity, and embodied learning. Tactile learning experiences remind us of the paramount significance of hands-on engagement and the multisensory nature of learning. By embracing tactile learning, educators can ensure that education remains grounded in human experiences and values, balancing technological advancements with the rich tapestry of human expression and understanding.

Conclusion

Tactile learning serves as a means to thread humanity back into education and research in the AI-dominated era. It enhances cognitive abilities fostering creativity and innovation and promotes holistic development. By embracing tactile learning experiences, educators can create more well-rounded and human-centered educational activities that value the uniqueness of each learner and cultivate their intellectual, emotional, and physical growth. The integration of mindfulness and contemplative pedagogies further supports this endeavor, providing learners with tools to foster self-awareness and deeper learning. In a time where technology is advancing rapidly, tactile learning offers a powerful reminder of the fundamental importance of human experiences and the embodiment of knowledge and knowing.

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Internet commensurability frameworks for Distance Education

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The Internet paradigm provides a set of nested frameworks to analyze and improve projects in Distance Education. The most general frameworks in this set explore the commensurability between Internet and society, and as we go down the hierarchy we end up with the well-established ACTIONS/SECTIONS framework of A. Bates; with multistakeholder governance; and with affordances. This paper explores the frameworks and applies them to Distance Education, particularly to the modalities that were applied in the emergency response to the confinement generated by the COVID-19 pandemic that started in 2021, and in particular in courses in Facultad de Química, UNAM. The work is the result of a quest to understand the bridges between known conducts, motivations, and incentives, and the way they manifest on the Internet, often with disruptive change. It applies to all variations of Distance Education, including e-learning, m-learning, hybrid, and blended learning.

The Internet's origin as a technical project was guided by a set of principles and design objectives that have endured and transcended the technical plane and surged into society. These principles and objectives were:

1. Layered architecture
2. Packet switching
3. Best effort
4. Interoperability
5. Openness
6. Robustness
7. End-to-end
8. Decentralization
9. Permissionless innovation.

After many years of growth and expansion of the Internet, members of society in different countries began to observe conducts that were offensive, potentially or actually criminal, or otherwise conflictive. In turn many proposals have been made to modify the way the Internet works, in order to achieve objectives such as the protection of intellectual property or its weakening towards a more open access to knowledge; protect free speech or limiting speech in order to avoid bullying, subversion, crime, racism, or terrorism; reduce or increase governments' control over speech and conduct of their citizens; and many other, often mutually contradictory, objectives. As this evolved in national, subnational, and supranational spaces, we started to observe that many of the evils attributed to the Internet and cyberspace are not generated by the Internet, notwithstanding the disruptive effects that the Internet has had in society, and also, that many proposals to correct the evils would undo the good that the Internet incontrovertibly has generated, or make it be something different that would stop complying with some of the principles or the emerging properties of the Net.

In response, organizations like the Internet Society have endeavored to identify the key factors that must be preserved and arrived at statements such as “The Internet Way of Networking” and an “Internet Impact Assessment Toolkit” that allows for a methodical analysis of policy initiatives and project features in order to see whether they are truly commensurable with the Internet.

The Internet Way of Networking is built from five critical properties that maximize the benefits the Internet brings:

1. An Accessible Infrastructure with a Common Protocol
2. An Open Architecture of Interoperable and Reusable Building Blocks
3. Decentralized Management and a Single Distributed Routing System
4. Common Global Identifiers
5. A Technology Neutral, General-Purpose Network

Ways to preserve the Internet’s “potential can be expressed by a set of goals for the Internet “Time and time again, different groups in different parts of the world with different viewpoints keep coming back to a common set of such aspirations:

1. An Open Internet that allows everyone to participate with a minimum of barriers, to use it, to innovate, and to grow and sustain the Internet as a force for good.
2. A Globally Connected Internet that is inclusive, allowing everyone to interconnect without geographical restrictions and use the full power of the network.
3. A Secure Internet that survives attacks, that supports everyone in maintaining integrity and confidentiality of the data. A secure Internet also means that its use does not create insecurity, such as botnets that are used in phishing scams.
4. A Trustworthy Internet that people can depend on to be there, so that the Internet can be a base for worldwide services, everything from recreation to commerce to information.”

Other organizations, namely the Regional Internet Registries that manage IP address allocation for the Asia Pacific and for the Latin American and Caribbean regions, APNIC and LACNIC respectively, commissioned a study to identify the Key Success Factors of the Internet which must not be undermined.

“The study provides an innovative framework based on four ‘dimensions of success’:

1. Scalability to support the growth of the Internet.
2. Flexibility in network technologies.
3. Adaptability to new applications.
4. Resilience to shocks and changes.”

Concurrently to the above developments, the author developed a framework based on 6 factors to identify and analyze separately the human, social, offline, or pre-Internet characteristics of online phenomena and the effects of the Internet on them, in order to thus analyze and modify proposals to address these phenomena. The factors are:

1. Scaling (Internet scale, which includes network effects and acceleration)

2. Identity management
3. Transjurisdictional effects
4. Barrier lowering
5. Friction reduction
6. Memory and forgetting.

With these factors we can for example:

1. Understand phishing as a manifestation of an ancient crime, fraud, in which perpetrators scale to millions of potential victims instead of facing a few each day face-to-face, hide their identities through spoofed Web pages and email addresses and other schemes, hide behind borders that make their deeds untraceable or hard to persecute, form highly plastic criminal organizations and ecosystems, generate speedy impulse actions by their victims used to the low-friction, one-click operations expected of good UX practice, and both on one side access and generate vast assets of victims' email addresses and telephone numbers, malware, credit card and other banking details, and on the other hand erase their traces to make attribution and prosecution impossible. In consequence, we can also recommend defenses such as increasing friction at the final-user level which helps citizens avoid acting on impulse, moved by greed, fear, or compassion, and falling into the hands of criminals.
2. Understand large-scale, global collaborative projects such as Wikipedia in comparison to printed encyclopedias, by, similarly to the above, comparing the mass reach of readers but also writers; understanding the benefits and pitfalls of anonymous edits; being able to deliver knowledge into countries and cultures that censor it; creating a large-scale, continuous global collaboration without having to establish a corporation, leasing offices, etc.; making editing possible at a flash speed, and creating an information asset of a size and reach barely if at all imagined in the past.

And many others, among which we will only mention here digital and online publications vis-à-vis print; online libraries vis-à-vis physical libraries, and many instances of e-government at the national and subnational levels.

This framework sits in a hierarchy, going from general to particular, below the Internet Society's and APNIC/LACNIC's, and the well established ACTIONS/SECTIONS framework for incorporation of technology into education created by Anthony "Tony" Bates.

Applied to Distance Education, this set of frameworks allows us to make sure that projects exploit in the favor of their stakeholders all properties of the Internet, such as resistance to failure (embodied in the "best effort" principle), respond to the end-to-end principle (by placing integrity, security, etc. as responsibilities of the edge and not assuming they will be protected by the network), and permissionless innovation, which must be understood as not requiring registration or authorization by an Internet authority which does not exist, while minding the laws and policies that do apply in the place of origin of the project, yet reach to where it may be censored.

The 6F approach also illuminates issues like the need for proper identity management (strict in educational projects that require certifications, anonymous where delivering e.g. education

about sexual and reproductive hygiene in repressive communities); cross borders appropriately (avoiding fraud, delivering education from safe environments into the unsafe); are released from burdensome organizational barriers; manage friction appropriately (lowest possible for learning and socializing; higher for tests and assessments, or for student operations which could damage the student such as grade deletion, submission of materials without anti-plagiarism checks); and using and enriching the vast memory of humankind online while deleting or better, not creating, traces of personal data.

The paper in the conference will present an analysis of how the emergency responses to the COVID-19 pandemic in the educational sector were optimized (or not) against these criteria, with two study cases to hand namely, the “zoom teaching adaptation” in high schools and higher education, and the shift to television for elementary education.

Cambios percibidos por el personal docente en la modalidad de educación a distancia: el caso de la Universidad Estatal a Distancia, Costa Rica.

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Introducción

La educación a distancia (EaD) ha experimentado un impresionante avance en las últimas décadas, democratizando la forma en que se accede y se comparte el conocimiento (UNESCO-IESALC, 2020). De acuerdo con Moore (2019), esta modalidad educativa, caracterizada por superar barreras geográficas y temporales, es una oportunidad porque permite el aprendizaje en diferentes contextos, situaciones y medios. Sin embargo, en el contexto de la pandemia provocada por el virus de la COVID-19, esta distinción entre separación espacial y temporal fue puesta a debate como un elemento característico de la EaD al masificarse el modelo de educación remota (Ulloa, 2021).

A partir de lo anterior, la Universidad Estatal a Distancia (UNED) de Costa Rica, institución pionera en el ámbito centroamericano en EaD, ha vivido una serie de cambios en los diferentes procesos de gestión académica y administrativa que han incidido de manera directa en la forma en que se percibe la EaD en la institución. Tal como lo plantea Ulloa (2021), la actual noción de esta modalidad

Por eso interesa en este manuscrito determinar los cambios e inflexiones que ha experimentado la EaD en UNED de Costa Rica, desde la percepción del personal académico que labora en dicha institución, de modo que aporte en la necesaria reflexión para la toma de decisiones con el fin de incidir de manera directa en el valor público que, como institución pública educativa, debe brindar a la sociedad costarricense.

A nivel de antecedentes, González et al. (2021) realizaron un estudio donde presentan el desarrollo de la EaD en el contexto rural colombiano y señalan la necesidad de mejorar la comunicación de los procesos educativos, la capacitación docente, el apoyo económico a las instituciones que trabajan en esta modalidad, entre otros. Szwabowski et al. (2022) presentan las percepciones de un grupo de personas académicas en Polonia sobre “ellos mismos, la cultura académica y la propia enseñanza, así como preguntas sobre la posibilidad de transformación” de la EaD (p. 396). Camacho (2022), en México, encontró la necesidad de crear políticas institucionales en las instituciones de EaD para regular los procesos académicos, principalmente en época de pandemia. Los estudios reseñados no solo identifican la pertinencia de esta modalidad educativa, sino que aportan ideas de ámbitos de acción que se deben atender y profundizar.

Nótese que este concepto clásico mantiene muchos de los elementos que hoy día caracterizan a las instituciones educativas a distancia; por ejemplo, los medios de comunicaciones digitales, la acción sistemática, la variedad de recursos y la promoción de habilidades en el estudiantado.

Uno de los cambios de dicha definición es que hoy se considera el carácter multidireccional de la comunicación.

Para Ugalde (2016), la EaD es la “modalidad de educación en la cual hay una separación física entre docentes y estudiantes, debido a razones geográficas, económicas, sociales, etc., por lo que la comunicación entre estos es mediada y no inmediata y sincrónica” (párr. 1). Las dos últimas definiciones, contextualizadas, señalan la comunicación como un elemento fundamental para la modalidad, pues desde ahí se puede consolidar ese hecho pedagógico necesario en todo proceso educativo. No obstante, para el caso de la UNED este ha ido evolucionando con el paso del tiempo mediado por diversos recursos y, como parte de los cambios de los últimos años, se ha intensificado una percepción en el personal docente de esta Universidad de que dichos recursos se orientan más hacia una virtualización.

Metodología

La información que se comparte en esta ponencia constituye un componente de una investigación más extensa acerca del desarrollo histórico de la EaD en Costa Rica. El estudio del cual da cuenta este documento se realizó con un carácter descriptivo (Hernández-Sampieri & Mendoza, 2018) centrado en la identificación de los cambios en la EaD percibidos por un grupo de 183 personas académicas de una universidad a distancia costarricense.

Las personas participantes se incorporaron al estudio tras una invitación masiva que se hizo llegar a la totalidad del funcionariado académico de la UNED Costa Rica (1945) durante el segundo cuatrimestre del 2023; aceptaron la participación en el consentimiento informado y accedieron al cuestionario que se dispuso en línea mediante la plataforma Lime Survey® en su versión de pago.

El cuestionario utilizado para el estudio fue sometido a una validación por medio de “juicio de expertos”, mediante consulta a tres personas con amplia trayectoria en la UNED. La información específica sobre la cual se estructura esta ponencia corresponde a uno de los reactivos del cuestionario señalado, en el cual se recopila información acerca de los cambios percibidos por las personas participantes en el modelo de la EaD.

El procesamiento de los datos se desarrolló en el software ATLAS.ti® v. 29, mediante una codificación de la información de las personas participantes, a quienes se les identifica mediante la letra “P” y un número; por ejemplo, “P32” significa “Persona 32”. Desde la perspectiva de la ética de la investigación se aplicaron los principios de no maleficencia, beneficencia, justicia social, respeto por las personas y justicia.

Discusión de resultados

En el primer grupo de categorías, se identifica información sobre cambios percibidos que están relacionados con la “gestión académica administrativa”. Concretamente se encuentra un elemento fundamental para la EaD y que ha sido respaldado en la UNED mediante una ley de la república (Ley N. 6044): es el “acceso y cobertura”. Por ello, para las personas participantes la UNED es hoy más democrática, cuando afirman que “se ha implementado una serie de

estrategias que permiten que estas puedan ser más accesibles y llegar a más población" (P43), o "se ha virtualizado la mayoría de los cursos ofertados, logrando una cobertura mayor" (P165). Además, porque mediante la EaD "los estudiantes logran tener mayores posibilidades de acceso a la universidad, principalmente porque no deben desplazarse al centro de estudio" (P176).

Otro cambio percibido que se visualiza en el grupo de códigos es el relacionado con los diseños curriculares, porque se pasó de la "modalidad de distancia presencial o híbrida a diseños o rediseños curriculares virtuales", según una persona participante (P84). Esto coincide con lo señalado en otras latitudes, vinculado a la necesidad de que las instituciones de educación superior actualicen su malla curricular (Araujo, 2020; Castillo, 2020; Lasso León et al., 2022; Mora de la Fuente y Puc Hernández, 2022; Umaña-Mata, 2020). Además, de acuerdo con la percepción de los informantes, un cambio notable en los diseños deriva de los "procesos de acreditación que implican transformaciones a nivel curricular y de los programas a diseños virtuales" (P183). Otro de los cambios señalados fue la "adaptabilidad", la cual se evidenció, según el profesorado, en el aumento de matrícula, que implicó "ser casi en su totalidad virtual" (P119) o, como señala otra persona, "una educación a distancia virtualizada" (P99). Pero se rescata que con esta modificación al modelo de distancia tradicional se "está a la altura de las universidades del país y del mundo" (P123), situación que debe ser de reflexión por parte de la Universidad.

El "desarrollo profesional" fue mencionado como otro cambio, dado que se percibe un incremento en las actividades relacionadas con ese aspecto "en todas las áreas, sobre todo, la pedagógica" (P117). Además, que la EaD fue continua, con la posibilidad de impartirse de manera "sincrónica y asincrónica" (P174), aspecto que también ha sido ampliamente abordado en otros contextos para poder enfrentar el uso masivo de la tecnología digital durante la pandemia de COVID (Bragg et al., 2021; Llorente y Volante, 2022; Guàrdia Ortiz et al., 2022). También se tienen los códigos de "flexibilidad horaria", "normativa" e "infraestructura".

El personal participante del estudio percibe que un cambio relevante en la EaD es que se opta por el teletrabajo para el funcionariado académico. Situación precipitada por las medidas sanitarias para evitar el contagio de COVID-19, pues previo a ello se tenía un modelo de asistencia presencial y apenas se daban los primeros pasos del teletrabajo institucional. Este cambio es percibido como congruente con el modelo de la EaD.

Otros cambios percibidos por el personal académico se relacionan con ajustes que en el corto plazo se han desarrollado a raíz de la pandemia experimentada entre 2020 y 2022, como lo son:

- a. los ajustes a las orientaciones de las asignaturas y la flexibilización de procedimientos,
- b. la digitalización de procesos, que el personal participante denomina "virtualización", y la asocia a la entrega de docencia y recursos didácticos, a las comunicaciones, al uso intensivo de tecnologías digitales, a los trámites estudiantiles y académicos ante las sedes universitarias, entre otros (P6, P8, P9, P10, P11, P13, P18, P20, P21, P24, P25, P26, P27, P28, P32, P33, P40, P41, P46, P47, P48, P94, P111).

Otra categoría de cambios percibidos por las personas participantes se relaciona con los actores educativos, por lo que se organizó un grupo de código que se subdividió en "estudiantado" y "profesorado". En cuanto al primer grupo, el personal académico señaló que hubo un aumento

de la población estudiantil debido a la reducción en el costo de los aranceles, así como un mayor acercamiento e interacción con el profesorado mediante la introducción de las sesiones sincrónicas en línea en las asignaturas. Ese cambio indicado posibilitó una mejor comunicación, pues estudiantes que antes no podían acudir físicamente a las sedes universitarias a recibir las tutorías, ahora sí logran interactuar con el personal docente y con sus pares gracias a los medios electrónicos. Otro cambio derivado del incremento en la población estudiantil es la diversificación de sus características sociodemográficas (P15, P24, P36, P109, P128, P147 y P156).

En relación con el profesorado, proponen que se transformó el rol de este, dado que ya dejó de atender dudas en las tutorías y se ha convertido en un facilitador de procesos. Además, permitió que se involucrara más con las personas estudiantes, pero a su vez significó flexibilidad de los procesos, para desempeñarse de la mejor manera (P40, P74, P104, P116).

Uno de los grupos de códigos que conglomeró mayor cantidad de información fue el relacionado con los “procesos pedagógicos”; desde aquí se abordaron seis códigos que evidencian los cambios según la percepción del personal académico. El primero de ellos tiene que ver con las tutorías, pues consideran que ahora son más accesibles al estudiantado por cuanto “se ha modificado la mediación en las tutorías al ser virtuales” (P61). Además, hay “más estudiantes participantes en tutorías virtuales” (P105), junto a que el modelo actual respetar los tiempos del estudiantado, por cuanto “las lecciones son virtuales, donde se graba la sesión y queda disponible para el estudiante para el repaso” (P57). Otro de los códigos fue la atención de la diversidad, donde proponen que los cambios más significativos fueron los servicios educativos brindados a las personas privadas de libertad y poblaciones originarias, dado que se amplió la cantidad de matrículas (P13). Por su parte, desde la perspectiva del equipamiento, la plataforma de aprendizaje en línea Moodle® permite la atención del estudiantado con alguna condición de discapacidad (P112); esto último ha sido también reportado en otros contextos por Rodríguez Torres y Gómez Jiménez (2020) y González Alba (2021).

Sobre el “modelo pedagógico”, señalan que este requiere una renovación para que responda a las situaciones que se viven actualmente (P93); aunque no se detallan esas situaciones, se infiere que se relacionan con la digitalización de procesos académicos. En torno a las “actividades didácticas” y los “recursos didácticos”, proponen que un cambio es la forma en que diversifica el material didáctico, pues se amplía la gama de opciones a videotutorías en línea (antes existían pero mediante la asistencia presencial a salas de videoconferencia), el uso de *e-books*, la incorporación de simuladores, las herramientas de comunicación sincrónica, diferentes sistemas de gestión del aprendizaje (la Universidad actualmente cuenta con tres plataformas Moodle para cursos de grado, posgrado y extensión, más una para la educación secundaria), entre otros (P19, P23, P51, P135, P153, P180). En las actividades, señalan que ahora se promueve “mayor investigación, menos memorización” (P36), dado que se pasó de “cursos muy teóricos a cursos más prácticos, donde los estudiantes puedan aprender de una manera diferente” (P170).

Otro de los códigos propuestos refiere a las “interacciones”, donde se menciona como cambio que se “ha mejorado la comunicación entre personal docente y alumnos” (P45) y que esta es “efectiva” (P48), propiciada por el uso de la tecnología digital. No obstante, es importante indicar que lo anotado junto a otros aportes no es la interacción propiamente en el proceso de

aprendizaje, sino a esa cercanía tan necesaria en la EaD de los diferentes actores que participan del proceso.

Por último, el cambio que resulta más significativo para el personal académico está en el rubro de la “evaluación de los aprendizajes”: alcanza a la variedad de instrumentos de evaluación, los procesos de evaluación auténtica, la flexibilidad en las entregas, el paso de pruebas escritas a proyectos y la disminución considerable de pruebas escritas, el uso de recursos digitales para la implementación de las actividades evaluativas, y pruebas de razonamiento y no de memorización (P4, 18,30, 36, 41, 69, 76, 91, 98, 127, 138, 183); en la figura 3 se proporciona una reseña. Al respecto, el tema de la evaluación de los aprendizajes ha sido ampliamente estudiado durante la pandemia de la COVID pues, similar a la UNED, se implementaron múltiples cambios en estrategias, instrumentos, fundamentaciones, entre otros (Guevara Araiza, 2021, Filippi et al., 2021 y Herrero Tejada et al., 2022).

Se consultó al personal académico de la UNED acerca de los desafíos de la EaD en la institución; al respecto, señalaron elementos propios de su quehacer académico; por ejemplo, la carga laboral que ha implicado el tránsito al uso intensivo de la tecnología digital, así como la necesidad de seguir desarrollando competencias mediante procesos de alfabetización digital (P39, P49, P61). Además, desde lo pedagógico consideran necesario reforzar estándares de calidad para la presentación de trabajos por parte del estudiantado, el reforzamiento de lo disciplinar junto a las habilidades para la vida, regulaciones en torno al uso de la inteligencia artificial y las prácticas deshonestas (P30, P72, P132, P136, P181). En consonancia con esto, un grupo crítico de personas académicas alerta sobre la necesidad de no incurrir en el “pensamiento tecnocentrista” (P7), pues indican que la UNED podría olvidar qué es la educación a distancia y “virtualizar por virtualizar, situación que puede ser contraproducente” (P179); o afirman que se “abandonó la concepción de educación a distancia y el apego al modelo pedagógico” para volcarse de lleno a una educación virtual (P108). De ahí que proponen no olvidar el “enfoque humanista” (P31) y una posición intermedia entre lo que ellos consideran que es educación a distancia versus educación virtual.

Por último, se realizó un análisis de co-ocurrencias, definidas como “la aparición simultánea de dos datos en un espacio pre-delimitado para encontrar asociaciones de distintos elementos donde existe proximidad, determinación, equivalencia, con el fin de establecer estructuras de relaciones lógicas entre categorías” (Escalante, 2009, p. 62

De acuerdo con el diagrama de Sankey para las co-ocurrencias del estudio, se evidencia que la serie de relaciones entre los diferentes códigos propuestos permiten vincular entre sí los cambios percibidos por las personas académicas de la UNED. Esto es, un cambio no necesariamente se realiza de forma aislada, sino que es percibido como parte de una red o entramado de procesos; por ejemplo, el “acceso y cobertura” se comprenden desde la “adaptabilidad” que tienen los “estudiantes”; o de mismo modo se evidencian relaciones entre la “comunicación” y las “tutorías”, entre los “recursos didácticos” y el “modelo pedagógico”. Desde una perspectiva semántica, hay palabras claves eminentes, que permiten ver cómo se construye esa percepción de cambio dentro del personal dado que se repiten en múltiples ocasiones en diferentes códigos. Es así como se visualiza esa intencionalidad de comunicar una visión por parte de las personas informantes.

Conclusiones

La educación a distancia representa una opción educativa que ha trascendido los límites tradicionales del aprendizaje, posibilitando el acceso al conocimiento a cualquier persona, en cualquier lugar y momento; esta modalidad educativa ha sido construida y perfeccionada a lo largo del tiempo, convirtiéndose en una herramienta para el progreso social, la movilidad ascendente y el desarrollo individual en la sociedad. No obstante, como todo proceso en construcción ha tenido cambios e inflexiones que marcan su devenir.

La UNED Costa Rica ha experimentado cambios significativos, desde la perspectiva del personal académico, para adaptarse al aprendizaje que la mayoría denomina “virtual”, a raíz de la pandemia de COVID. Uno de los cambios significativos se relaciona con los procesos pedagógicos, en particular lo referido a la evaluación de los aprendizajes, donde se generan actividades didácticas diversas e instrumentos de evaluación en franca disrupción de lo desarrollado previo a la pandemia. Además, dentro de estos procesos pedagógicos, la institución ha priorizado la digitalización de procesos, brindar formación en competencias digitales al personal existente, pero también contratar personal nuevo con habilidades de este tipo. Como se ve, los resultados apuntan al uso intensivo de la tecnología, pues, aunque ciertamente la institución ya la tenía, el profesorado señala que ahora se hace un uso total de la plataforma de aprendizaje Moodle® y una renovación de planes y programas de estudio centrados en la virtualidad.

De acuerdo con las opiniones expresadas por el funcionariado académico participante del estudio, la UNED Costa Rica está transitando hacia un modelo de educación totalmente virtual, sustituyendo las tutorías presenciales por interacciones sincrónicas y aumentando el uso de apoyos tecnológicos para la atención de las diversas situaciones del estudiantado. En ese contexto señalan como retos: la adaptación del estudiantado y el profesorado a ambiente completamente “virtuales”, la mediación pedagógica de las tutorías síncronas, los cambios en evaluación, una mayor planificación de ajustes académicos, más recursos didácticos contextualizados para la “virtualidad” y la continuidad de la formación para lograr un buen desempeño en la “virtualidad”, por parte del estudiantado como del profesorado.

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Impact of Applied AI on digitalized Higher Education Ecosystems

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(1) System und Ecosystem

A system is a collection of elements that have relationships between them. It represents a defined area of objective reality surrounded by an environment, with which the system can interact through interfaces. An ecosystem, on the other hand, is a subset of this concept and shares typical system properties such as openness, interconnectedness, and dynamics. The idea of ecosystems, derived from nature, can be abstracted and applied to social phenomena as well. Thus, an ecosystem is a dynamic and open network of interconnected organizations and institutions within a specific physical and/or virtual domain [9].

To ensure the preservation and successful development of ecosystems, it is essential to prioritize sustainability [12]. This involves striking a balance between ecological, economic, and social considerations. Additionally, the pervasive influence of digitalization further complicates the challenge, leading to the emergence and design of digital ecosystems [13]. Inspired by natural ecosystems, various other types and forms of ecosystems have been derived. In 1996, Moore explored the interconnectedness of economic, environmental, and social aspects within biological systems, giving rise to the concept of enterprise ecosystems [1][2]. As further advancements were made, additional subtypes emerged, including digital ecosystems, learning ecosystems, innovation ecosystems, and more. What unites them all is the dynamic structure connecting social actors who interact to achieve shared economic and ecological objectives. Higher education systems can thus be regarded as a subset of ecosystems, intertwined with other subtypes of ecosystems.

(2) Higher Education Ecosystems

Higher education ecosystems play a crucial role in the educational landscape, operating at various levels ranging from regional to global scales. With the advent of digitalization, a new dimension called hybrid higher education ecosystems has emerged, where a combination of virtual and physical education systems can be realized in different proportions [13]. This adds another layer of complexity to an already intricate issue, resulting in a multidimensional system. Within higher education ecosystems, all educational institutions, their offerings, and the interconnected actors involved are encompassed. They provide the framework for the future development of higher education landscapes worldwide.

Hence, higher education ecosystems possess the potential to serve as the framework and catalyst for transforming teaching and learning in higher education. The interplay between higher

education policy contexts, sustainable partnerships, content, and pedagogical changes lies at the heart of ecosystem development within the broader societal, environmental, economic, and cultural contexts [3][12]. By assuming the dual roles of innovation engines and sustainability catalysts, higher education institutions contribute to the evolution of higher education within the realm of innovation ecosystems. These ecosystems exhibit characteristics of cross-sectoral, transnational, and multilateral collaborations, involving actors from various organizations to generate knowledge by embracing fresh ideas and approaches from both internal and external sources. As a result, universities become anchor institutions for knowledge exchange and undertake the crucial roles of fostering trust and acting as institutional entrepreneurs within higher education ecosystems [4][10].

(3) Digitalized Higher Education Ecosystems

Digitization is reshaping education systems, including higher education, by transforming them into digitized ecosystems that incorporate economic, environmental, and social processes within a distinct system. This integration is achieved through the incorporation of technical and technological elements, utilizing digitalization and automation to streamline educational, administrative, and service-related procedures [13]. By leveraging the interplay of diverse aspects within a digital ecosystem, universities are enabled to model and implement educational processes in a realistic and theoretically sound manner. This approach takes into account practical considerations and fosters the utilization of educational processes within regional, national, and international university networks, embracing a multidimensional and authentic perspective.

Taking a holistic approach to the interplay of various factors within teaching, learning, and support processes brings forth fresh perspectives on knowledge transfer in higher education, facilitating the promotion and generation of innovation. It is therefore natural to examine digital ecosystems in higher education through the lens of innovation incubators. Incubators possess the unique characteristic of offering enhanced support for specific processes or areas of interest, greatly accelerating their development. This influx of additional resources, combined with a focused approach and the establishment of favorable developmental conditions, creates an environment conducive to the emergence, growth, and utilization of innovations. Higher education institutions, as organizational entities in the field of education, inherently possess the capacity to generate, cultivate, and apply innovations [5]. This includes leveraging emerging technologies, such as artificial intelligence (AI), within intricate applications like ecosystems.

(4) Ecosystems, AI, and higher education

Data-driven systems and their AI-based applications serve as foundations for novel and innovative business models. Given the transformative potential of data and AI, organizations must shift from working in isolation to fostering cooperative and collaborative exchanges with other entities [10]. To facilitate this, networks, exchange platforms, and collaborations are essential, providing a space where diverse actors can share their expertise and cultivate shared goals. These ecosystems, specifically designed for data and AI, are networks where partners collaborate, exchange data, establish common interfaces, and forge influential mergers and

collaborations. Through these interconnected relationships, powerful synergies are created, enabling the collective harnessing of data and AI's potential.

Despite the recognition of the need for ecosystems, data and AI ecosystems have yet to fully permeate, particularly in the European region, even though 27 percent of executives acknowledge their importance. However, it is projected that ecosystems will contribute to generating 30 percent of global GDP by 2025 [6]. In the realm of higher education ecosystems, there is an increasing focus on development and innovation worldwide, although the utilization of AI is often limited to specific sub-processes. Nonetheless, higher education ecosystems are poised to evolve into AI ecosystems. The primary challenge lies in effectively integrating and operating these complex ecosystems. According to LUCINI [7], several significant trends can be identified: (1) Existing AI models will undergo further optimization, updates, and expansion in the future. (2) The impact of natural language processing (NLP) will significantly increase. (3) Advanced governance will be necessary as more AI models and use cases enter production. (4) Organizations at all levels will need to enhance their AI literacy as the adoption of AI accelerates.

As we witness the development and deployment of new AI solutions for digital higher education ecosystems, it becomes evident that a comprehensive and holistic approach is necessary.

(5) Use case "Higher education ecosystem and AI"

The University in Zwickau is currently undergoing a comprehensive digitization process, transforming it into a university ecosystem. Concurrently, the application of AI is being advanced across various domains. Specifically, there is a strong emphasis on integrating AI at three levels: management and administration, study orientation and organization, and the development of study programs and courses. This complex project focuses on enhancing these areas through process-supported pathways, including the design of modules and micro-credentials. Detailed process analysis serves as the foundation for creating three key pathways: study orientation, study specialization, and individualized learning. Within each of these areas, AI models and methods are selectively adapted and employed. A holistic approach ensures coordination and centralized hosting of these AI initiatives [8].

A chatbot powered by generative AI, utilizing the IBM Watson system, is currently under development for student counseling and orientation purposes. Each individual use case forms an integral part of a meticulously designed overall concept, encompassing the main processes of the university and exploring various AI application possibilities. Once prototypical solutions are available, practical testing will be conducted. Concurrently, empirical studies will be carried out to gather regular feedback from stakeholders, ensuring product improvement and quality assurance. To facilitate the smooth integration and migration of the new system components into the existing IT landscape, overall coordination is maintained across sub-projects, in collaboration with the relevant administrative units and the Centre for Communication and Information.

Regular publication of interim findings regarding the development of the AI-focused university ecosystem takes place. The overall outcome will be structured in a manner that allows for its transferability to other digitized higher education ecosystems.

(6) Effects of AI on digital university ecosystems

The introduction and implementation of new technologies, such as digitalization and artificial intelligence, are known to trigger analyses and redefinition of processes, resulting in quality improvement and process optimization [11]. This general effect is also observed within the application of AI in higher education systems. Furthermore, the increasing utilization of AI in higher education yields the following outcomes: a holistic understanding of the impact of the higher education ecosystem internally and externally, enhanced collaboration between academic and administrative units, as well as external partners of the institution, improved consistency in process and quality management, modularization of service processes and study modules, increased qualification levels of staff, particularly in the realm of AI, expanded use of new technologies with a focus on artificial intelligence, heightened efficiency and effectiveness across all university member groups, advancing the maturity level of digitalization and AI support, bolstering the university's reputation and attractiveness of offered study programs, and strengthening its innovative capacity, among other benefits.

Notable highlights of the transformation towards an AI-supported digital higher education ecosystem include the following: development and implementation of an AI application framework system encompassing study organization, study programs, and modules; introduction of study organization pathways; support for recruitment processes; integration with existing knowledge management systems while expanding AI qualification; implementation of AI-based specialized pathways; establishment of a certificate program focused on AI; integration of existing learning management systems within digital learning hubs; and the advancement of AI qualifications among students. These specific aspects mutually interact and exert a significant influence on the ongoing digitization of the higher education ecosystem, particularly through the increased utilization of AI.

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Institutional Readiness Towards Digital Education: Practice, Experience, and Outcomes

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Introduction

Much has been said regarding the need for higher education institutions to reengineer themselves and how borrowing a page from successful models only sometimes in the same sector can be of value (Levine & Van Pelt, 2021). For the past few years, computer-aided or computer-mediated instruction has been the only way for millions of students to attend classes and continue their educational journey. The common way this is known is through online learning, although different from remote instruction (Hodges et al., 2020), which was the primary way instruction occurred during the COVID-19 Pandemic (World Health Organization, 2020). These activities have solidified the role, quality, and importance of online learning in all its forms. However, before the pandemic, there were institutions 100% online that existed to serve students with multiple responsibilities, or it was not easy for them to attend college via traditional educational means. That is the case of the TCC Connect Campus at Tarrant County College (TCC) in Texas (Morales, 2017), celebrating its 10th year in 2024.

Student preferences

During the same time described above, students have been more vocal about how, when, and where they want to learn and attend college. Since 2021, TCC has been tracking students' preferred ways to attend college. Students were asked to rank between face-to-face, hybrid, and online (TCC IR, 2021), and the results show that in 2021 online was preferred by 28% of the students, while in 2022, 29% of the students preferred online. Those preferences have also been recorded at the TCC Connect Campus in the form of enrollments, where the campus used to increase its enrollment by 10% annually, and now it is 15% annually, and, in some cases, it has been every semester.

Strategic Planning

An important tool to ensure the campus was able to keep up with student demands and preferences has been planning. This is accomplished through the creation of an annual workplan. The campus has effectively aligned a cadence to postulate, discuss, plan, and implement initiatives for Academic and Student Affairs units, thus creating a culture that fosters and supports student success in online learning. Through the effective use of instructional technology, academic programs, and student services focus on rigor, immediacy, flexibility, and always available. From its inception to date, the campus has been innovating and ahead of its peers, and it has effectively influenced the academic and technological agenda of the college.

To support an educational endeavor of thousands of students, the author of this article led the development of 10 major activities were developed between 2014 and 2019, ranging from course development, online instructor certification, accelerated programs, online advising,

eFaculty Coach, and instituting a virtual computer lab (Table 1). These initiatives have allowed the campus to be attentive to student needs, student success and have been paramount in achieving high success rates—students receiving grades of C or better—upwards of 75% every semester.

Through a strategic plan, it has been possible for the campus to engage in forecasting student needs and new programs and explore initiatives that allow us to serve more and serve our students better.

Conclusions

This presentation and paper aim at sharing the strategies employed to establish a fully online campus that increases the educational opportunities of students in a vast, dispersed metropolitan area. Grounded in planning, forecasting, and data-informed initiatives, the TCC Connect Campus has been at the forefront of serving non-traditional students via eLearning and accelerated programs. It is increasing student success for populations traditionally underserved or who have found conventional academic offerings insufficient for their needs.

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Enhancing Digital Competencies for Educators in Assessment: Utilizing Technological Tools to Identify Linguistic Features of Artificially Generated Content Versus Human-Generated Content

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This research paper makes a valuable contribution to the theme of digital competencies aimed at supporting educators in the assessment process. Specifically, the study explores carefully selected technological tools that could potentially aid in the identification of linguistic features that distinguish artificially generated content (AIGC) from human-generated content (HGC). Focusing on large language models (LLM), particularly ChatGPT, renowned for their exceptional capabilities to generate high-quality written content, this paper addresses the growing concern among educators regarding the judging the authenticity of student's submitted essays work from AI-generated content. The study addresses the scarcity of research in this area, particularly in second language (L2) contexts, such as South African universities. The study utilizes two distinct sets of corpora: L2 students' academic essays and AI-generated essays on the same topics. By conducting a systematic analysis of these essays, the research identifies key lexical, syntactic, and stylistic linguistic features that are characteristic of AIGC and HGC.

The findings of this study underscore the significance of educators' awareness and understanding of these linguistic features. By acquiring such knowledge, educators can confidently and effectively detect artificial generated content, strengthening their capabilities in a digitally driven educational spaces.

Strategy for evaluating educational innovation projects in a public university

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Introduction

In a society that is constantly transforming, educational innovation is one of the most important strategies for Higher Education Institutions (HEIs) to address the challenges and demands it entails (Constenla et al, 2022; Halász, 2018). Thus, defining and measuring educational innovation, designing and implementing innovation policies in the education sector, and promoting innovative pedagogies have been some of the key actions of educational institutions in many parts of the world over the last decade (Halász, 2018).

However, to define and to assess educational innovation is a complicated task, among other things, because the concept of educational innovation is polysemic and simultaneously refers to a product or outcome and a process (Sánchez Mendiola et al, 2018; Tierney and Lanford, 2016). Additionally, in many HEIs, the main initiatives for designing and developing educational innovations are based on institutional programs or internal education policies, which leave many innovations, especially those produced by teachers, “hidden” or “invisible” (Halász, 2018).

Background

Many HEIs have various initiatives to establish action frameworks and norms that guide educational innovation initiatives within their institution and have developed models to assess their innovation projects. In Mexico, two cases can be mentioned: Instituto Politécnico Nacional (IPN), which in 2007 published its Educational Innovation model consisting of twelve criteria (Ortega et al, 2007). Tecnológico de Monterrey published in 2017, the “*Escala I*” a reference framework for evaluating educational innovation projects consisting of five criteria (López and Heredia, 2017).

In the Latin American context, Pontificia Universidad Católica de Chile stands out for developing the document “What is educational innovation and how to evaluate it?” between 2018 and 2022. It presents the “Model for the Evaluation of Educational Innovation,” which consists of a three-phase rubric with 11 dimensions or criteria (Center for Faculty Development UC, ND). In Ibero-

America, the MAIN method (Method for Planning, Applying, and Disseminating Educational Innovation) by Fidalgo-Blanco and Sein-Echaluce (2018), the structured series of stages to follow for evaluating educational innovation by Jacobs (2000), and the criteria for evaluating university teaching innovation projects at the Universidad de Granada by León Guerrero and López López (2014).

These efforts demonstrate that evaluating educational innovation is a complex and challenging process to define (León Guerrero and López López, 2014), and all HEIs need to face the constant challenge related to the complexity of the innovation process in education, be it institutional, curricular, or pedagogical. Both faculty and institutional management teams find it problematic to plan, develop, and measure educational innovation due to the scarcity of criteria, guidelines, or frameworks to classify, organize, and recognize it (Fidalgo-Blanco and Sein-Echaluce, 2018).

Problem

Particularly at the National Autonomous University of Mexico (UNAM), educational innovation has been an important part of the institution's administrative agendas. For the last three decades, the university has had an institutional program that provides funding to academics for designing and developing educational innovation projects, called the "Program of Support for Projects to Innovate and Improve Education" (PAPIME). Additionally, in 2016, an academic-administrative unit was created, the Coordination of Open University, Educational Innovation, and Distance Education (CUAIEED), to study, document, and disseminate institutional educational innovation initiatives (<https://cuaieed.unam.mx/>).

However, for educational innovations to grow organically, a definition and quality parameters known to the entire community are required, allowing projects to be sustained based on the knowledge generated and shared by themselves. Yet, constructing and consolidating a vision of educational innovation for UNAM is a significant challenge. On the one hand, the concept itself is polysemic and complex by nature, and on the other hand, UNAM comprises a wide diversity of areas, disciplines, and educational levels. It serves over 360,000 students and has more than 42,000 academics engaged in education, research, and outreach activities (UNAM, 2022).

The objective of this work is to present the "Strategy for the Evaluation of Educational Innovation Projects at UNAM" as a set of structured guidelines to guide the development of educational innovation projects, decision-making of various kinds, such as resource allocation and incentives for implementation or recognition of teachers and projects.

Method

The research was conducted in the first semester of 2023, but it has its background dating back to 2019. The working method is divided into two stages, the first stage involves identifying, organizing, and adapting a series of criteria and indicators from other national and international models on the evaluation of educational innovation. This phase concluded in 2021, and the details can be found in "Evaluating educational innovation at UNAM: a proposal of criteria and indicators" (Santos, 2021). The second stage built upon the results of the first phase to develop the strategy for evaluating educational innovation projects at UNAM.

Development of the Strategy for evaluating educational innovation projects at UNAM

The development of the strategy is divided into three phases. The first phase consisted of a documentary review to identify the characteristics, stages, or guidelines of methods or implemented guides for evaluating educational innovation in other contexts. The second phase involved a review of the proposed criteria for evaluation, conducted by 10 external evaluators. The third phase involved collaborative analysis by a multidisciplinary team of 13 specialists from various disciplines, allowing for the formulation of an operational definition of educational innovation and the design of the strategy for evaluating educational innovation projects presented in this work.

Results

One of the primary outcomes of this work is the establishment of the operational definition of educational innovation, which is as follows:

“Educational innovation comprises creative processes of novel transformation to plan, implement, and evaluate certain elements of the educational ecosystem, with the intention of solving problems and improving student learning.”

The key reference point proposed in this strategy to assess educational innovations lies in the interconnectedness and dynamism among three elements: the phases of project development, evaluators, and evaluation objectives.

Development of the Project Phases

According to Zabalza (2012), innovation is a process that consists of a series of stages or phases, originating from a situation considered critical by an individual or group of individuals that will lead to the development of the project and culminate with the evaluation of results and the impact of the proposed solution. For the purpose of the strategy presented here, three phases or moments are considered for the assessment exercise:

- **Planning:** This phase involves theoretically and proactively expressing the process to be followed for the development of the innovation. It includes defining the problem to be addressed, the objectives to be achieved, the beneficiary population, the required materials and resources, existing knowledge or evidence, as well as the justification that supports the project.
- **Execution:** This phase encompasses the implementation of the project, involving a set of activities aimed at achieving the stated objectives through resource organization, involvement of the beneficiary population, and possible adjustments based on the context in which it is implemented.
- **Evaluation:** In this phase, the quantitative and qualitative information from the systematic collection of results from the innovation project is analyzed to identify strengths and areas of opportunity that allow for the improvement of the proposed problem-solving solution. Continuous iteration principles, essential in innovation processes, are emphasized.

Evaluators

In the evaluation strategy for educational innovation projects, it is essential to consider the educational profiles of those who will conduct the evaluation of the innovations. Each evaluator will have a particular perspective and involvement in each of the project development phases:

- **Project Leaders:** These are the individuals who have proposed or developed the innovative solution in some educational aspect. In this case, a self-assessment exercise will be conducted.
- **Professors:** The participation of professors from the same disciplinary area as the project being evaluated is essential, and it involves a peer evaluation or co-evaluation process.
- **Authorities:** Refers to figures directing the educational institution where the project is being developed or will be developed.
- **Students:** If the project aims to innovate in some pedagogical aspect, the participation of students with characteristics similar to the final recipients is recommended.
- **Pedagogical Team:** Comprising a group of specialists in educational innovation, their evaluation will be aimed at determining the type of psychopedagogical orientation required for the project's development.

Evaluation Objectives

Evaluating educational innovation has two essential intentions aligned with the evaluation purposes: formative and summative. Based on these, the following objectives are proposed in the "Strategy for Evaluating Educational Innovation Projects at UNAM":

- **Feedback:** Provide information to guide the project's development.
- **Providing Guidance:** Direct project leaders to take actions that enable the achievement of proposed objectives.
- **Resource Allocation:** Decide what resources and how many are assigned to carry out the project, such as the funding granted by the PAPIME program.
- **Documentation of Innovation:** Refers to the systematization of educational innovation for dissemination to the university community through various means, such as the UNAM Educational Innovation repository, which presents syntheses of completed projects supported by PAPIME.

Discussion and Conclusions

Evaluating educational innovations is a complex task involving various elements or factors that converge in different ways depending on the moment and purposes of the innovation. Models or strategies for assessing innovations in education, such as the one proposed in this work, represent a clear and reliable path to achieve the goal of enhancing quality and maintaining a proactive outlook directed towards progress and adaptation to abrupt changes in uncertain contexts, as we currently experience. This is achieved by identifying, guiding, and directing actions that transform education.

The “Strategy for Evaluating Educational Innovation Projects at UNAM” represents an effort towards fostering a culture of innovation within this educational institution, involving professors, authorities, students, and the pedagogical support team in the three development moments: planning, execution, and evaluation. Furthermore, it will serve as the basis for making future adjustments to PAPIME and will be used as input to advise projects.

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Democratizing Faculty Professional Development: A Collaborative, International Approach to Digital Pedagogy Training

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Professors and instructors can be intimidated by the latest technologies. There are learning curves and they seem complicated. Oftentimes our students are using these tools well before we even consider integrating them into our teaching practice. To fully engage our students in the learning process we need to take a chance, not be afraid to make mistakes, and fail-up by trying these tools. Some are social media related, some are AI based, and others are just becoming comfortable using video or online conferencing. Underpinning this all is the basics of pedagogy and curricular design that we are all used to, there is nothing new here. The delivery model has changed but whatever you do in the classroom you can do online using a digital tool. The new educational ecosystem needs to include faculty professional development. We need to collaborate to take the fear and uncertainty away. One way this can be done is by internationalizing our faculty professional development. This paper discusses the experiences of one faculty instructor who traveled to Uganda to provide digital pedagogy and learning management system training to colleagues at Uganda Martyrs University (UMU) through the Fulbright program. It will include the perspectives of five faculty at UMU who participated in the six-week training program. Through an open assessment of the content and hybrid delivery mode we hope others will use it as a model for the internationalization of academic professional development. The style of the instructor and the mindset of the participants must embrace elements of gamification and playfulness in order to create a learning ecosystem that overcomes fear and intimidation of new technologies. Finally, our goal is to move the instruction modules used in the campus LMS, Moodle, to an open format so others can take advantage of the training created and adapt them for their own, local professional development using creative commons licensing.

As a professor who primarily teaches undergraduate students I was apprehensive about teaching colleagues about technology and specifically digital pedagogy. I suffered from the “imposter syndrome” thinking there was nothing new I could contribute to their professional development. They were my colleagues, albeit from the other side of the world, but we often assume our academic colleagues know everything. However, after I read the Fulbright call for someone to provide digital pedagogy training and really thought about the technology skills I have and the experience I have teaching students how to use those technologies I took a chance and agreed to travel to Uganda to complete a Fulbright. Before I left the U.S. I was able to gain access to their LMS, Moodle, and start building out a six-week course. I didn’t know what

skill levels they had, what the Internet/WiFi would be like, and what technology I would find in the classroom. I approached this with a spirit of play and discovery. I was embarking on an adventure to meet new colleagues and understand how they teach in Uganda. I would be able to improve my own teaching by working and learning with them. I embraced the inquiry-based pedagogical approach to the curriculum I was building. I saw myself as both the instructor and the learner. Together, we would learn what their online teaching needs were and what tools or techniques would fulfill those needs. It would be organic, spontaneous, and (I hoped) fun. In the past I have taught adult learners how to use various hardware and software; I've found that some have a fear of learning such things so being playful takes some of the fear away. I organized the curriculum in a way that built on the previous week. We would slowly go from redesigning our learning outcomes to incorporate a digital tool, then move to understanding best practices in instructional design, then start building out a lesson using video, online assessment, and collaborative classroom activities. The final week would be learning to use some of the advanced features of their LMS because when I arrived it became clear after the second week, they didn't know everything Moodle could do to solve their teaching needs.

During the six weeks the faculty who came almost daily really dove into the material and completed the homeworks. Some experimented with green screen technology, word analysis tools, and online debate forums. They were a wonderful group who brought curiosity, humility, and play into their professional development. In the next few paragraphs five of them will give their feedback on the program. What they felt worked, what were some of the challenges, and how they would improve the training going forward. As stated earlier, this course is now a work in progress. The goal is to create an open learning environment that others can copy and modify to their needs. It is a truly international collaboration in faculty professional development.

A number of factors contributed to these and I want to try to discuss some of them. All of them have more to do with our able facilitator than the tools themselves. In the first place, she understood that we are adult learners, with most of us coming from varied disciplines which had nothing to do either with pedagogy or with technology. She thus took us through the pedagogical elements. This was so important because many of us begin lecturing jobs without any prior preparation in the science of teaching and learning. The importance of this was that it prepared us to connect the different digital tools with the pedagogical requirements and pointed to the fact that the technology tool does not substitute the teacher but make the teacher better. But another thing stood out from the facilitator. She kept it simple and ensured each participant practices what has just been learnt. For example, she created a digital pedagogy course in our LMS and embedded weekly videos to introduce each theme/topic. They were short and relevant, and she demonstrated how she created each, which enabled us to try to create them ourselves.

Each week she ensured no one of us is left out, but without delaying the completion of a day's schedule. This was accomplished by her hands-on approach as well as encouraging faculty who "got it" to help us who had not. By doing this she created an atmosphere in which everyone supported each other, irrespective of our varying levels of experience in digital pedagogy. She also enabled us to identify the areas we were previously struggling with. This was especially in regard to the official LMS of our university, the Moodle. She enabled us to prepare amazing videos there using the H5P tool and other plug-ins which were hitherto either dormant or not known to us. The involvement and training of our ICT personnel ensured continuity even when

our facilitator was not there. Our facilitator covered almost everything we needed to improve our online teaching, including those not previously on her schedule, after finding out we needed them. Some of the extra offerings included the appropriate use of the AI like ChatGPT and learning how to help our students use them properly, to data sources which we needed but didn't even know they either existed or free, to using the Gradebook in our LMS. She also thought of our own research needs and introduced us to writing productivity tools and AI citation analysis and literature review tools like Research Rabbit.

One of the key factors to the success of this training program was the capacity of the facilitator to adapt the original plan and strategy to the needs of the participants. And, unlike some previous facilitators, she combined experience both from classroom and from ICT. In this case, she knew what teachers go through in using technology but also had the technical skills. She thus forged a way to pass these skills to struggling colleagues. She did not seem too complex as some technical persons but was also very conversant with the pedagogy. The tendency in some trainings is to teach pedagogy in a non pedagogical way. The mismatch between what is taught and what is done in the training is many times the reason why adult learners go away with nothing. This gap was bridged in this workshop. It is my desire to see more technology instructors come from the professoriate. It was very clear to me that this was the difference. She lived what she preached.

Database of Development Indicators for World Open Universities: A Data-driven Large-scale Comparative Study

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1. Introduction

In the past 50 years, lots of open universities have been established around the world, which has greatly changed the landscape of global higher education and strongly promoted the development of higher education in various countries from elite to mass and even universal. The Open University of China (OUC), established in 1978 (formerly known as China Central Radio and TV University), is both an independent national open university and an open university system which consists of one headquarters, 45 provincial branches, and 3,735 study centers, covering all urban and rural areas in China. According to the latest data, spanning from 1979 to 2022, the OUC has registered a cumulative enrollment of 24.44 million students, with a total of 18.88 million graduates. As of the autumn semester of 2022, there are 5.092 million students learning in the OUC, which makes it the largest university of the world nowadays.

However, both the leadership of the OUC and the China's Ministry of Education aware and acknowledge that the OUC is characterized as being "large but not strong enough", at least when compared to the grand vision of building a powerful nation in education in China. So, in November 2019, the first Party Congress of the OUC clearly put forward the goal of building a world-class open university with Chinese characteristics in three steps. In August 2020, the Ministry of Education of China (2020) issued the "Comprehensive Reform Plan for the Open University of China" (CRP for OUC), which explicitly requires the OUC to improve its quality and to build a world-class open university with Chinese characteristics. In November 2022, The report of the 20th National Congress of the Communist Party of China clearly put forward that "high-quality development is the primary task of comprehensively building a modern socialist country", and that China should "implement the strategy of rejuvenating the country through science and education, accelerate the construction of a high-quality education system, promote the digitization of education, and build a learning society and a big learning country with lifelong learning for the whole people".

As a mega-university with more than 5 million continuing/higher education students, accounting for approximately 12% of the total number of higher education students in China (data as of February 2023), the OUC is eagerly to figure out how to create a world-class open university and achieve high-quality development, which is not only a necessity for the reform and development of the OUC itself, but also an inevitable requirement for China's comprehensive construction of an education powerhouse and the comprehensive realization of high-quality education development. However, there is currently a lack of consensus in the academic community regarding what constitutes a world-class open university and what criteria and indicators should be used to evaluate the effectiveness and quality of open university reforms and educational

outcomes. There are also evident theoretical gaps and practical bottlenecks in assessing the achievements and benefits of open university reforms and educational quality.

Meanwhile, due to the complexity and vast scale of the open universities, as well as the diverse forms of their operation, and longstanding detachment from conventional higher education systems, there has been a persistent lack of scientifically objective observation and evaluation methods(methodology) for not only the OUC but also the world open universities. Moreover, many fundamental data concerning open universities are either missing, or in a state of disarray, and there is a notable lack of consensus on the measurement standards. Therefore, guided by the realistic needs of “building a world-class open university” and “utilizing data to drive high-quality development”, it is of utmost theoretical and practical significance to initial the research project of Development Indicators for World Open Universities (DIWOU), which is quantifiable and analyzable, from an international perspective. It is meaningful and valuable, not only for the OUC but also for every open university in the world, to establish a monitoring database and utilize it to achieve data-driven, high-quality development.

2. Literature gap and research questions

2.1. What is an open university?

What is the definition of “open university”? There are different answers and understandings. Many scholars describe the UK Open University as the first open university in the world, such as Hanmo Jeong (2019), which is obviously from the point of view of whether there is an “open university” in the name of the institution. But in fact, many institutions that do not have “open university” in their name are also recognized as open universities, such as Athabasca University in Canada, the University of South Africa in South Africa, and so on. Some scholar defined open universities as “institutions which provide open admission to adult students and, through flexible policies and a variety of delivery mechanisms, notably distance education, provide access to and success in university education to those previously denied such opportunity” (Paul, 1993, pp. 115–116). Tait (2008) noted that “many rich countries with wide-spread participation in higher education do not (have an open university), such as the USA, Australia, and France”. However, there is a not-for-profit organization named “Open Universities Australia”, although it is not on the same model as the UK Open University. Wang (2020) noted that, as of 2019, the number of open universities worldwide has exceeded 100. Some of these open universities are directly named as “open university” or similar terms, while others, although not explicitly named “open university”, are considered as open universities in a broader sense due to their educational positioning and characteristics that align with open admission, primarily utilizing flexible distance or online teaching methods, and emphasizing lifelong education and open learning.

2.2. How many open universities are there in the whole world?

Different scholars and sources have different statistics and calculations about how many open universities there are in the whole world. Ross Paul and Alan Tait (2019) noted that “there is ... 60-80 (depending upon definitions) open universities around the world” and “there are an

estimated 8 million students in open universities around the world". Kam Cheong Li and Billy Tak-Ming Wong (2019) wrote that "from the founding of the UK Open University in 1969 to the current situation with about 60 open universities established around the globe". Irwin DeVries (2019) noted that "According to a list maintained by Contact North (2018), there are, at the time of this writing, 70 open universities globally".

These figures are clearly underestimated, as the number of open universities in just two countries, China and India, exceeds 60. China has over 40 open universities, while India has approximately 20 open universities. The 2022 data shows that the student population of China's open universities is around 5 million, and India's open universities have a student population of approximately 3.4 million. Therefore, the combined student population of these two countries already exceeds 8 million. Wikipedia features an entry titled "List of Open Universities", which includes names of approximately 80 open universities. However, this list is neither comprehensive nor accurate, as some open universities no longer exist and others have not been included.

2.3. How to evaluate open universities?

With the continuous development of internationalization and global interconnection of higher education, various types of distance and open education institutions, including open universities, are facing many pressures to cope with domestic and foreign market competition, ensure the size and quantity of students, and improve teaching quality and social reputation. In the meantime, global university rankings, such as the US News Best Global Universities Rankings, the QS World University Rankings, the Academic Ranking of World Universities, and the Times Higher Education World University Rankings, have become important tools for society and the public to judge the strengths and weaknesses of a higher education institution.

In order to develop a ranking tool tailored to capture the quality of online HEIs, we first need to understand what criteria and indicators are the most appropriate for measuring the specificities of online universities. In this paper, we present the approach we adopted to address this need and the results obtained, in an attempt to contribute to the debate about how we should valorize online HEIs within existing ranking systems. We seek to address the following research questions:

1. What criteria and indicators should we use to evaluate and compare the development of open universities around the world?
2. How do we get the data and build a monitoring database of the Development Indicators for World Open Universities (DIWOU)?
3. How to apply the database of DIWOU to achieve better development data-driven of Open University?

3. Methods

Methods used in this research project include:

3.1. Expert Interview (Delphi method)

This research will extensively conduct expert interviews to solicit opinions and suggestions from leaders of open universities, renowned scholars, international organization officials, and other experts, regarding the construction, improvement, and iterative updates of the World Open University Development Indicator System.

3.2. Data collection

For the data collection of each Open University, this research gives priority to using the open data of each Open University, including the open data on the government of the host country (region) and the official website of the university, as well as the data on the official publications of the university. Secondly, the co-construction and sharing of databases can be realized by carrying out international cooperative research or signing data sharing agreements.

3.3. Database design and development

The design and development of the database of DIWOU includes project planning, system analysis, overall design, detailed design, coding debugging and integration testing, operation maintenance, and other aspects from the perspective of computer and programming experts. The database consists of a backend data collection, management, and analysis system, as well as a frontend display system (presented in the form of a thematic website) where researchers, decision-makers of open universities, and ordinary users can access and view different levels of content based on their identities and permissions.

3.4. Case studies

During the process of DIWOU database construction and the trial operation stage, several open universities from China, the United Kingdom, Germany, Japan, India, and other countries will be selected as case studies to validate the rationality and practical value of the database. After the completion of the database construction, the research team will continue to conduct case studies and plan to publish a “Report on the Development of World Open Universities (20XX-20XX)” every five years. Each report will select a number of representative open universities as in-depth analysis cases.

4. Progress and achievements

The initial phase of the DIWOU research project has been essentially concluded, demonstrating notable advancements in the following areas:

- 1) The formation of an international and interdisciplinary research team comprising scholars from open universities and the field of open and distance education at both domestic and international levels. The team’s expertise encompasses diverse disciplines such as comparative education, educational technology, computer science and technology, and statistics.

- 2) Through collaborative endeavors of domestic and international experts and scholars, the preliminary establishment of criteria and indicators for DIWOU has been successfully accomplished. As we can see in Table 1, there are 5 primary indicators, including Openness, Teaching & Learning, Research, Finance, Reputation, 16 secondary indicators and 60 tertiary indicators (viewpoints).
- 3) The initial data collection phase involving the first batch of 10 open universities worldwide has been concluded.
- 4) The dedicated DIWOU research project website (<http://en.diwou.ouchn.edu.cn/>) has been developed and launched, with continuous enhancements and refinements of its content. The website serves as a platform to showcase significant research accomplishments of the team in this domain, and already has 2 monographs, 5 papers and 1 report.

5. Conclusion and discussion

Throughout the world, open universities are a major force for the massification and popularisation of higher education. They play an irreplaceable role in achieving the United Nations 2030 Sustainable Development Goal 4 (SDG4) to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”. In China, educational institutions at all levels have made “high-quality development” their goal in the new era, including the Open University of China (OUC). At the same time, the digital transformation of education, the vigorous development of MOOCs, and the participation of many conventional universities and enterprises in open and distance education have not only brought great opportunities but also posed severe challenges to open universities worldwide. How to achieve high-quality and sustainable development has become a common problem facing open universities all over the world.

In this context, the OUC launched the DIWOU research project based on its existing research outcomes and practices in 2022. The research targets data collection and construction for the development indicators with the aim of providing a reference for decision-making and guidance based on solid data and empirical analysis for the OUC and open universities around the world to pursue high-quality development and sustainable development. To date, the OUC research team has initially established an initial research framework, collected data of nearly 20 open universities worldwide, and built a website for the DIWOU research project.

Invited by the founding members, any open university or any organization/institution dedicated to open education all over the world could apply voluntarily for joining the network of the DIWOU. Members are obliged to make contributions to the construction of the DIWOU database and share data within the network.

Given the lack of evaluating systems for world open universities, the study presented in this paper aimed to devise a set of methods and indicators reflecting the nature and characteristics of open universities that could be used for open universities to judge and compare their developments. Specifically, this study deals with the idea of defining criteria and indicators through an empirical approach, based on the iterative contribution of a number of expert and stakeholders, using mixed methods with quantity and quality research. This study contributes

to the development, testing and application of representative indicators and database for open universities based on consensus at three levels (macro level, meso level and micro level).

In the days to come, the research team will extend invitations to more international peers to participate in the DIWOU research project at important conferences such as the “World Open University Presidents Forum” and the “ICDE World Conference”, to promote the co-construction and sharing of the DIWOU database and collaborative researches based on data.

We are committed to working together to develop and share the database of Development Indicators for World Open Universities through international dialogue and cooperation, to do evidence-based research, to encourage global open universities to accommodate, reshape, and change during the process of education digitalization, and to promote the United Nations 2030 Sustainable Development Goal 4 (SDG4). Let’s join hands in creating an even better future for open education around the world!

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Proficiency of teachers' digital competence in Distance Higher Education: Proposed steps towards a certification process at UNED Costa Rica

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This paper is a proposal to determine necessary steps to develop a certification model for teacher digital competence (TDC) to improve best pedagogical practices in distance higher education. This prospective study is based on the current situation of UNED as the primary distance (and on-line) public university in Costa Rica.

To start the discussion and proposal a bibliometric study on the subject was conducted to obtain a better grasp on the subject and to delimit the scope of the necessary research. The main outcomes suggests that there isn't enough integration of ICTs in the pedagogical models of universities nor scientific consensus of proved methods to determine and assess TDC's (Fernández-Cruz & Rodríguez-Legendre, 2021; Poce et al., 2018). There are however many studies to understand the perception of educators about how and what they learn during their formative years to prepare them in a timely manner to be professionals and citizens capable of facing the challenges of educating in the 21st century (Cantabrana et al., 2019; Gómez-Trigueros et al., 2019). There's also a proliferation of research projects about TDC that focus on which digital competencies are necessary to be able to teach according to the requirements of the knowledge society (formal, informal, vocational, for employability and technological literacy). (Gomez-Parra, 2021; Nooruddin & Bhamani, 2019; Romero-Martín et al., 2017; Valtonen et al., 2021; Zorlu & Zorlu, 2021). Most recently the studies related to certification processes are gaining traction as a way to go beyond the more traditional perception and psychometric approaches to the subject. These studies are based on the different levels of proficiency and skillfulness on a variety of competencies related not only to ICTs but also including other aspects and realms needed to promote an ethical management of digital citizenship and literacy (Alarcón et al., 2020; Cabero-Almenara et al., 2021; Feerrar, 2019; Guillén-Gámez et al., 2020).

In this context of educational research, it becomes necessary to ask the question: How can universities ensure the quality and implement procedures to promote the acquisition and mastery of these skills for those in charge of teaching the newer generations? In this case the focus is the situation of UNED Costa Rica, for its specialization in distance education. In addition, being the only public distance university in the country, there is a constant effort to stay at the forefront of the digital transformation of higher education in Costa Rica. This study can generate important contributions as it will establish steps and actions that UNED can take to create the first model for certification of TDC in the country specifically for distance education.

This prospective study will present a review of the current frameworks that may provide the theoretical backbone for the process, a methodological strategy to conduct the necessary research in a scientific and rigorous manner and a proposal based on evidence that will ensure better outcomes and appropriate use of resources.

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Virtual and face-to-face learning environments: Approach to the idea of Hybrid Education in postgraduate of the Autonomous Indigenous University of Mexico

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Introducción

Después de la experiencia vivida en el posgrado de la Universidad Autónoma Indígena de México (UAIM) de educación virtual obligada por la pandemia del COVID-19, esta investigación plantea que el regresar a la educación presencial debería ser con otra forma de pensar y desarrollar las clases; de lo contrario sería tanto como desconocer los avances logrados desde la educación virtual. Las interrogantes centrales de investigación son: ¿Qué percepción tienen sobre los entornos virtuales de aprendizaje los estudiantes de posgrado de la UAIM? ¿Qué percepción tienen sobre los entornos presenciales de aprendizaje los estudiantes de posgrado de la UAIM? y ¿Cómo debe ser la educación híbrida en posgrado del UAIM? Los propósitos de la investigación es comprender la complejidad de los entornos virtuales y presenciales de aprendizaje en el posgrado de la UAIM y el de crear una propuesta de educación híbrida.

Metodología

La metodología de investigación utilizada fue cualitativa, el método fenomenológico-hermenéutico, como técnica la entrevista en profundidad, los instrumentos fueron el guion de entrevista, la plataforma ZOOM y transcripciones en YouTube. Para el análisis de datos se utilizó el método de teoría fundamentada con la utilización de la herramienta Atlas.ti.

Resultados

1. Reducción de los datos

La respuesta a la primera pregunta central ¿Qué percepción tienen sobre los entornos virtuales de aprendizaje los estudiantes de posgrado de la UAIM? permitió la emergencia de las subcategorías actitudes del estudiante, requerimientos de la virtualidad, desventajas de la virtualidad y ventajas de la virtualidad.

En relación con la segunda pregunta central ¿Qué percepción tienen sobre los entornos presenciales de aprendizaje los estudiantes de posgrado de la UAIM? permitió la emergencia de las subcategorías desventajas de la presencialidad y ventajas de la presencialidad.

En relación con la tercera pregunta ¿Cómo debe ser la educación híbrida en posgrado del UAIM? es importante aclarar que la respuesta a esta pregunta no proviene de una experiencia de educación híbrida experimentada por los estudiantes de posgrado de la UAIM, más bien de manera prospectiva una vez que experimentaron la educación presencial y la virtual, los informantes integran las ventajas de cada experiencia para crear un bosquejo de educación híbrida ideal,

2. Triangulación

Triangulación co-ocurrencia

La tabla co-ocurrencia permitió visualizar la relación que existen entre ciertos códigos que comparten citas y que se complementó con el diagrama Sandkey que se muestra en la figura 4. Las líneas más gruesas son los que mayor relación poseen con los códigos de su propia subcategoría, pero también con otras subcategorías. Además, el diagrama Sandkey muestra cómo se entreteje el entramado epistémico emergente a partir de las relaciones entre significados develados de cada entrevista. Por cuestiones de espacio solo se muestran los códigos con más saturación.

Triangulación código-sujetos

Por otro lado, la tabla código-documento permitió agrupar todos los códigos y subcategorías suministradas por cada una de las entrevistas, evidenciando la saturación teórica quedando excluidos aquellos códigos que presentan poca frecuencia.

Por lo tanto, los códigos que se saturaron son: Administración del tiempo, Autonomía en aprendizaje, Comodidad, Dominio de las TICS por estudiantes, Facilidad de comunicación con profesores, Falta de administración del tiempo, Falta de interacción social, Interacción social, No dominio de las TICS por estudiantes, Resiliente y Seguimiento.

Triangulación teórica

Posteriormente a la saturación de códigos se procedió a que los hallazgos empíricos dialoguen con los hallazgos teóricos para dar emergencia a la red semántica integradora de los entornos virtuales de aprendizaje.

Entornos virtuales de aprendizaje

Actitudes del estudiante

Autonomía en aprendizaje

El estudiante es el principal responsable de su aprendizaje, no necesita que el docente le solicite que estudie. La cita dice: *“Principalmente ser autónomo, la modalidad virtual es una buena opción, cuando el estudiante toma las riendas de su propio ehhh, desarrollo...”* Estudiante 1. De acuerdo con Valdés y Armas (2022, p. 185) la Autonomía en aprendizaje requiere el *“...enseñar a los estudiantes a aprender mediante el desarrollo de habilidades de planificación, supervisión y evaluación de su propio aprendizaje para promover el desarrollo de la autorregulación del aprendizaje...”*.

Resiliente

El estudiante al estar en la educación virtual le permitió sobreponerse a circunstancias adversas e imprevistas; como es el caso de cambiar de la noche a la mañana de la educación presencial a

la educación virtual. La cita dice: *"... nadie estábamos preparados para desarrollar clases como se dieron y creo que fue la necesidad del momento de trasladarnos a los ambientes virtuales para poder seguir avanzando"* Estudiante 3. Según Rivera et al. (2021, p. 126), en relación con el ser Resiliente expresa que en: *"...el proceso de enseñanza-aprendizaje necesita estudiantes que desarrollen una actitud resiliente para afrontar los inconvenientes que se generan a partir de estos nuevos entornos educativos."*

Requerimientos de la virtualidad

Dominio de las TICS por estudiantes

En la medida que se cuente con el Dominio de las TICS por estudiantes, considerando la habilidad para manipular información, computadoras, programas y redes; en esa medida será la posibilidad de desarrollar sus actividades de estudio e investigación. La cita dice: *"... conocer y dominar las herramientas ... las famosas TICS ... en esa medida que dominas las TICS pues vas a poder tener más opciones de, de herramientas para poder desarrollar tus propias actividades, sus investigaciones"* Estudiante 1. De acuerdo con Castellanos (2021, p. 72) *"Es evidente que la educación virtual hace al estudiante mejorar en sus habilidades digitales..."*.

Seguimiento

Es la actitud del docente para acompañar al estudiante en resolver dudas en su proceso de aprendizaje. La cita dice: *"... a mí sí me tocó tener profesores que estaban muy al pendiente de nosotros, ... me ayudó mucho para poder sacar cada una de las asignaturas y los proyectos, ..."* Estudiante 1. De acuerdo con Lara (2015, p. 281) como se citó en Campón et al. (2023) el Seguimiento *"permite monitorizar los avances del aprendizaje, promover la participación, ofrecer información a los estudiantes y hacer una evaluación final del curso"*.

Desventajas de la virtualidad

Falta de interacción social

Durante la pandemia los estudiantes añoraban el socializar con sus compañeros físicamente para apoyarse durante la trayectoria del posgrado, así como también añoraban la interacción con el docente de manera formal e informal en los pasillos de la universidad. La cita dice: *"... la integración donde vas conociendo a sus compañeros y eso muchas veces sirve, pues para poder tener un grupo fuerte ¿no? que se, que se apoye durante todo el posgrado..."* Estudiante 1. Por su parte Castro et al. (2021, p. 202) expresan que *"El sentimiento de frustración frente a las actividades académicas se incrementó al no tener el recurso del apoyo de compañeros y compañeras, ..."*.

No dominio de las TICS por estudiantes

Algunos estudiantes desconocían como utilizar el sistema de videoconferencia ZOOM. La cita dice: *"entonces, durante el inicio de las clases se utilizaron diversas estrategias como el uso de ehhh, de la plataforma principalmente ZOOM, donde creo que como estudiante ehhh, pues*

la principal barrera..., fue aprender a utilizarla” Estudiante 3. De acuerdo con Cavallo et al. (2021) “Para los estudiantes, los nuevos entornos virtuales permitieron ... dejar en evidencia las dificultades a la adaptación a nuevas plataformas...”.

Ventajas de la virtualidad

Comodidad

Es más confortable estar desde casa en un espacio cómodo para aprender. La cita dice: *“y estar en un espacio cómodo, en mi casa tomando alguna clase...”*. De acuerdo con Cavallo et al. (2021) *“Las ventajas que los estudiantes perciben en la educación virtual se focalizan en aspectos relacionados con la comodidad de estudiar desde sus casas...”*.

Facilidad de comunicación con profesores

Fue más sencillo establecer el intercambio de mensajes con los profesores en cualquier día y hora para poder llevar a cabo las actividades a través de WhatsApp y correo electrónico. La cita dice: *“porque yo veía mis docentes los veo y si tengo una duda la resuelvo, y ellos no han dado la facilidad de comunicarnos, por otros medios, por correo electrónico por WhatsApp” Estudiante 2.* Así mismo Barroso et al. (2020, p. 117) la Facilidad de comunicación con profesores son *“Espacios de comunicación efectiva y acompañamiento: aquí aparece el interés por parte de estudiantes en mantener y reforzar canales de comunicación virtual con sus docentes y entre compañeros..., a través de por ejemplo grupos de WhatsApp, correo electrónico y foros en aulas virtuales”*.

Administración del tiempo

El estudiante no se está atado a un horario específico y también a un lugar por lo que se responsabiliza de cuándo y dónde estudiar. La cita dice: *“el estar un poco más suelto representa mayor ventaja porque me puedo administrar con mi tiempo y ... no necesariamente tener que estar en un horario específico en un, ... lugar determinado...”*. De acuerdo con Barroso et al. (2020, p. 112) una ventaja de la educación virtual es la Administración del tiempo ya que *“se destaca el manejo del tiempo propio y la libertad, con respecto a las ataduras a un horario y un espacio fijo de cursado”*.

Posteriormente a la saturación de códigos se procedió a que los hallazgos empíricos dialoguen con los hallazgos teóricos para dar emergencia a la red semántica integradora de los entornos presenciales de aprendizaje.

Entornos presenciales de aprendizaje

Desventajas de la presencialidad

Falta de administración del tiempo

El estudiante está limitado en la administración de su tiempo en la educación presencial; porque ya se tiene programado los tiempos que el estudiante permanecerá en las instalaciones por parte de la universidad. A demás que le lleva tiempo trasladarse hacia la universidad. La cita dice: *“En la presencialidad una de las principales desventajas es, es el tiempo ...que te lleva el trasladarte hacia las instalaciones, el tiempo que permaneces ahí, que hay muchas veces, pues se puede aprovechar sobre todo para los estudiantes que, ... trabajamos que tenemos, ... obligaciones eehhh, ... familia...” Estudiante 1.* Por otro lado, Castro, et al. (2021,

p. 189) expresan que durante la pandemia esa Falta de administración del tiempo por parte del estudiante desapareció y explica que *“Los estudiantes refirieron que el tiempo pasaba más rápido, ahora había más tiempo, ..., ya que no lo gastaban trasportándose a la universidad. Se perdieron las marcas temporales, vinculadas con los tránsitos entre los espacios público y privado y, con él, las rutinas, los rituales y los ciclos, con sus respectivas marcas culturales en la vida cotidiana;”*.

Ventajas de la presencialidad

Interacción social

La educación presencial permite la interacción cara a cara con otros estudiantes y docentes, la convivencia dentro y fuera del aula de manera informal en los pasillos de la universidad para relacionarse y conocerse. La cita dice: *“la parte presencial es, es muy importante, el tener el contacto directo con los compañeros, con los profesores,”* Estudiante 1. De acuerdo con Castro, et al. (2021, p. 210) la Interacción social es *“una parte fundamental del bienestar subjetivo de los estudiantes universitarios pasa por el desarrollo y crecimiento interpersonal que forjan en el contacto directo con sus pares en el espacio universitario, que les permite prepararse para asumir las tareas propias de la vida adulta autónoma, por lo que los espacios de interacción universitaria tanto dentro del aula como fuera de ella son fundamentales”*.

Educación híbrida

Por lo tanto, la educación híbrida que integró las ventajas de los entornos virtuales y presenciales de aprendizaje, donde se consideró únicamente los códigos saturados y posteriormente al diálogo entre hallazgos empíricos con hallazgos teóricos, permitió que emergiera la red semántica integradora de la educación híbrida desde la perspectiva de los estudiantes de posgrado de la UAIM.

Conclusiones

El acercamiento una educación híbrida desde la perspectiva de los estudiantes de posgrado de la UAIM consiste en rescatar las ventajas de los entornos virtuales y presenciales analizados en esta investigación donde la flexibilidad que el estudiante tiene para administrar su tiempo es relevante, así como también lo es la facilidad de comunicación con los docentes a través de las diferentes redes sociales WhastApp, plataformas de videoconferencias como ZOOM para resolver dudas y la comodidad de estudiar desde casa, por otro lado desde la presencialidad emerge con gran importancia la interacción social con docentes y compañeros como parte del desarrollo intersubjetivo de los estudiantes necesarios para afrontar los retos del mañana.

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The student profile in contrast to the student realities of CONED

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The student profile is determined from the vision that the institution has of the people who can be users of the educational resource, and from the definition of the same, the curricular structure, the pedagogical mediations and the evaluative aspects for said mediation are woven. The National High School of Distance Education (CONED) began to develop its first student profile in 2005 as a response to the first report on the State of Education (2005), which pointed out that the non-attendance of students was correlated with the educational level of their parents or caregivers, likewise indicated that more than 25% of adults had not finished their university studies.

This Costa Rican educational framework motivated Dr. Rodrigo Arias to propose the creation of a distance education college, which would be sheltered by the Distance State University (UNED), which opened its doors to the population in July 2006. The objective of the present investigation is to analyze the student profile of CONED and contrast it with the realities of the students who enroll, for this a contrast was made between the data obtained from a survey carried out with 1915 of the 3696 students enrolled in the first semester of the 2023 in the 13 existing venues. The selection of the sample was made randomly and in person.

The instruments were physically sent to all the sites and they were asked to apply them during the first evaluations; however, some sites applied them during the execution of the second test. CONED currently has two models: remote and virtual, however, both models have the tests carried out in person, for which reason the circumstances were used to apply the instruments.

The student immersed in an educational process possesses or develops certain characteristics that, although it is true, may be part of their personality, others must be strengthened and acquired by passing through the education system. The skills designed for CONED students are related to Learning to Learn, such as knowledge management and time management.

The student body in a distance environment must carry out an independent learning process to adapt to this environment, we can say according to González E, that the student becomes responsible for their learning process since it is the student who has the freedom to study with flexibility in time and place. It is this same principle of freedom of space and time, which drives the creation of virtual courses to comply with the curriculum proposed by the Ministry of Public Education (MEP) for secondary education for young people and adults.

In a distance model, the young-adult person almost always has little time to study and be able to distribute their day-to-day obligations, which is why planning takes on a leading role in the teaching-learning process, now the responsibility of the The process falls on the student, who must assume it in a committed way, demonstrate commitment and develop the competence of "learning to learn". For example, in the findings obtained, 1,510 people are employed and of these, 1,200 are in a relationship with a couple with children, the majority, which forces them to manage time effectively and efficiently.

Now, understanding distance education as “a teaching-learning system that is partially or totally developed through information and communication technologies (ICT), under a two-way scheme between teacher and students. This system replaces the model of personal interaction in the classroom with one of tutoring that makes the student responsible for their own training” (Imaginario, 2019, p.1). The foregoing allows us to glimpse how the technological elements and the tutoring space become determining factors within a distance model, where the student must put into motion a gear of components that will help them to transit through a model of distance education to be successful.

In CONED, by applying a student-centered model, the use of a virtual environment favors a more active participation of the student. According to Bautista, Borges and Forés (2006), there is a change in role from the incorporation of technologies, since the approach of the different activities encourages the involvement of the student in their own learning and makes them the actor. main east, therefore, should show:

- Proactivity, in the understanding that you cannot expect everything to be done for you, you must take the initiative at different times of your learning.
- Autonomy, you must assume that you are solely responsible for your learning and your work.
- Own goals, you must value the educational process as a personal goal. Ability to reflect on their skills and applied strategies, they must be able to build their own knowledge and no one can replace them in this work.
- Active participation, you must be the protagonist of your learning.
- Apply appropriate communication strategies, you must recognize, represent and share the content that is proposed.
- Learning to work in a collaborative learning environment, you must be able to build your learning together with your peers (Bautista, Borges and Forés, 2006).

The main findings found show that 826 students have taken open education exams, which means that the CONED was not their first instance to obtain their high school completion certification. In addition, they have gone through other educational systems that have not taken into account the different social components that frame their lives.

In conclusion, it was glimpsed that the type of CONED student has transformed and has forced a change in learning strategies, in addition to the social pressures with which students enter, who depend on the certificate of completion of studies to support their jobs and their families.

El perfil estudiantil se determina a partir de la visión que tiene la institución de las personas que pueden ser usuarias del recurso educativo, y a partir de la definición del mismo se teje la estructura curricular, las mediaciones pedagógicas y los aspectos evaluativos para dicha mediación. El Colegio Nacional de Educación a Distancia (CONED) empezó a elaborar su primer perfil estudiantil en el 2005 como respuesta del primer informe del Estado de la Educación (2005), el cual apuntaba que la inasistencia de las personas estudiantes estaba correlacionada con el grado educativo de sus padres o cuidadores, así mismo indicaba que más de un 25% de las personas adultas no habían terminado sus estudios universitarios.

Ese encuadre educativo costarricense motiva al Dr. Rodrigo Arias a proponer la creación de un colegio de educación a distancia, que estuviera cobijado por la Universidad Estatal a Distancia (UNED), el cual abre sus puertas a la población en julio de 2006. El objetivo de la presente investigación es analizar el perfil estudiantil del CONED y contrastarlo con las realidades de los estudiantes que matriculan, para ello se realizó un contraste entre los datos obtenidos a partir de una encuesta realizada a 1915 de los 3696 estudiantes matriculados en el primer semestre del 2023 en las 13 sedes existentes. La elección de la muestra se hizo al azar y de manera presencial.

Los instrumentos se enviaron físicamente a todas las sedes y se les solicitó que los aplicaran durante las primeras evaluaciones, no obstante, algunas sedes los aplicaron durante la ejecución de la segunda prueba. El CONED cuenta con dos modelos en la actualidad: a distancia y virtual, sin embargo, ambos modelos tienen la ejecución de las pruebas de manera presencial, por lo cual se aprovecho las circunstancias para aplicar los instrumentos.

La persona estudiante inmersa en un proceso educativo posee o bien desarrolla ciertas características que si bien es cierto pueden ser parte de su personalidad, otras deben de potenciarse y adquirir con el paso por el sistema de educación. Las habilidades pensadas para las personas estudiantes del CONED están relacionadas Aprender a Aprender, como por ejemplo la gestión del conocimiento y la gestión del tiempo.

El estudiantado en un ambiente a distancia deberá de llevar a cabo un proceso de aprendizaje independiente a adaptarse a este ambiente, podemos decir según *González E, que el estudiante se vuelve responsable de su proceso de aprendizaje ya que ya que es el estudiante el que tiene la libertad de estudiar con una flexibilidad en tiempo y lugar*. Es este mismo principio de libertad de espacio y de horario, el que impulsa la creación de los cursos virtuales para cumplir con la malla curricular propuesta por el Ministerio de Educación Pública (MEP) para la educación secundaria de las personas jóvenes y adultas.

En un modelo a distancia la persona joven – adulta, tiene casi siempre poco tiempo para estudiar y poder distribuir sus obligaciones del día a día, es por ello que la planificación cobra un papel protagónico dentro del proceso de enseñanza – aprendizaje, ahora la responsabilidad del proceso recae en el estudiante, quien debe de asumir de manera comprometida el mismo, demostrar compromiso y desarrollar la competencia de “aprender a aprender”. Por ejemplo, en los hallazgos obtenidos 1510 personas se encuentran empleadas y de ellas 1200 se encuentran en una relación de pareja con hijos, la mayoría, lo cual les fuerza a gestionar de manera efectiva y eficiente el tiempo.

Ahora bien, entendiendo la educación a distancia como “un sistema de enseñanza-aprendizaje que se desarrolla parcial o totalmente a través de las tecnologías de la información y comunicación (TIC), bajo un esquema bidireccional entre profesor y alumnos. Este sistema sustituye el modelo de interacción personal en el aula por uno de tutoría que responsabiliza al estudiante de su propia formación” (Imaginario, 2019, p.1). Lo anterior permite vislumbrar como los elementos tecnológicos y el espacio de la tutoría de convierten en factores determinantes dentro de un modelo a distancia, donde la persona estudiante debe de poner en marcha un engranaje de componentes que le ayudaran a que su tránsito por un modelo de educación a distancia sea exitoso.

En CONED al aplicar un modelo centrado en el estudiante, el uso de un entorno virtual favorece una participación más activa del estudiante. Según Bautista, Borges y Forés (2006), existe un

cambio de rol a partir de la incorporación de las tecnologías, ya que por el planteamiento de las diferentes actividades se propicia la implicación del estudiante en su propio aprendizaje y se le convierte en el actor principal del este, por lo tanto, debe mostrar:

- Proactividad, en el entendido que no puede esperar que todo se le de hecho, debe tomar la iniciativa en diferentes momentos de su aprendizaje.
- Autonomía, debe asumir que es el único responsable de su aprendizaje y de su trabajo.
- Metas propias, debe valorar el proceso educativo como una meta personal. Capacidad para reflexionar sobre sus destrezas y las estrategias de aplica, debe ser capaz de construir su propio conocimiento y nadie lo puede sustituir de esta labor.
- Participación activa, debe ser protagonista de su aprendizaje.
- Aplicar estrategias adecuadas de comunicación, debe reconocer, representar y compartir los contenidos que le proponen.
- Aprender a trabajar en un ambiente de aprendizaje colaborativo, debe ser capaz de construir su aprendizaje en conjunto con sus pares (Bautista, Borges y Forés, 2006).

Los principales hallazgos encontrados muestran que 826 estudiantes han realizado exámenes de educación abierta, lo que significa que el CONED no fue su primera instancia para obtener su certificación de conclusión de secundaria. Además, han pasado por otros sistemas educativos que no han tomado en cuenta los diferentes componentes sociales que enmarcan sus vidas.

En conclusión, se vislumbró que el tipo de estudiante del CONED se ha transformado y ha obligado a un cambio en las estrategias de aprendizaje, además de las presiones sociales con las que ingresan las personas estudiantes, las cuales dependen del certificado de conclusión de estudios para mantener sus trabajos y a sus familias.

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Credit-transfer mooc development experience from the Autonomous University of Baja California.

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Throughout the last decade, MOOCs (Massive, Open and Online Courses) have established themselves as an instrument to provide a flexible and self-directed educational offer, currently with 220 million users worldwide (Shai, 2021), in addition to being part of the new paradigm of online education.

MOOCs are a well-established educational practice internationally and are offered in both formal and informal settings. Since its appearance in 2008, they have been identified as a democratizing offer due to the advantages it provides: easy online access, the possibility of using a personalized learning pace, distributed learning process that reduces the teaching hierarchy to be self-directed by the student, access to content from different universities and research centers, accessible and verifiable certifications (Lorente-Ruiz et al., 2021; Vázquez-Cano, et al., 2021; Altinpulluk, H., et al., 2023).

Regarding the ability of MOOCs to generate a social impact, based on their open and democratizing nature, it is necessary to recognize the existence of access gaps, the command of the English language in most of the offers of the main providers international, as well as the cultural differences of the participants. Despite this, they are a bridge to access universal knowledge from the most remote locations, as well as to build understanding and multicultural tolerance.

On the other hand, among the disadvantages of MOOCs, the lack of tutoring, the difficulty of developing collaborative learning between participants, and, above all, the high dropout rates they register have been pointed out. Regarding the latter, it is reported that only about 10% of the participants successfully complete the courses. The causes of this low percentage include the student's need to self-regulate, the fact that it is free, and the very nature of the interest that led students to enroll in principle (such as updating, curiosity, measuring their knowledge, etc.) (Lorente-Ruiz et al., 2021; Vázquez-Cano, et al., 2021).

The platforms that offer MOOCs can offer limited access to materials for free (Coursera, EdX, Miriada, MexicoX, etc.), although in most of these, obtaining a certificate involves paying a registration fee. These platforms serve a diverse and international audience and can be used as a supplement to formal learning. In turn, various institutions have created their own spaces to offer MOOCs to their students, as an offer aimed at various educational programs, as remedial courses, or as part of their continuing education offer (UNED Abierta, UPV[X], Colef online, etc.).

Another way of conceiving MOOCs in the educational landscape consists of their potential to develop upskill and reskill programs in the face of the labor skills required by Industry 4.0 and digitization. An example of this is the SWAYAM platform and its relationship with the Skill India

program (Singh & Kakkar, 2023). With a comprehensive program that also includes the transfer of credits and the promotion of universal access, it has achieved rapid growth thanks to the coordination of HIEs and the respective government education bodies. However, it has not gotten rid of the problems already mentioned, such as the difference between enrollment and completed courses.

This communication presents the experience of implementing MOOC courses for the development of transversal skills in a public institution of higher education in northern Mexico. As part of the commitment of the Autonomous University of Baja California (UABC), expressed within its Educational Model (UABC, 2018) to provide opportunities for its community to develop autonomous learning and curricular flexibility for comprehensive training, as well as a responsibility towards the population, two MOOCs were produced and implemented through the MéxicoX platform (<https://mexicox.gob.mx/>).

The Development of Socio-emotional Skills and Personal Finance courses were offered in the 2022-2 and 2023-1 semesters and addressed cross-cutting themes to the academic trajectory of university students. Both have the characteristics of developing at the student's pace, as well as being open and free. Although the offer is associated with the assignment of curricular credits for students enrolled in the institution, it was also opened to the general population. In total, 44,566 users registered during the two broadcasts of both courses.

Additionally, as part of the course evaluation strategy, a satisfaction survey was conducted with the general aspects of the course, including duration, objectives, topics, materials, graphic design, and employability. This tool was answered within the same platform by the users of each MOOC, during or at the end of their work in the course. The results are used as input to improve the contents and design of this offer, to guarantee the quality of these and their contribution to the achievement of the institutional objectives associated with the Sustainable Development Goals (SDG) in education, such as equal access for all women and men, including the vulnerable, as well as providing relevant skills to youth and adults.

The results of registration and participation in the courses, as well as the satisfaction surveys, are presented and discussed in the communication. Some findings can be highlighted, such as the participation of a high number of high school students, international enrollment, and contributions to curricular flexibility. On the other hand, the evaluation and dropout of non-university participants continue to appear as the major issues to be resolved. Regarding university students, the institutional strategy must have a clear conception of this offer in its formal courses, as well as analyze and discuss the Blended and Embedded MOOC models, which have been reported as advantageous in terms of motivation and permanence (Ma & Lee, 2023).

As part of a new landscape of open online training, MOOCs have supported the university community and external users with relevant learning for their professional, academic, and personal lives. The experience presented here constitutes a regional manifestation of a phenomenon that occurs at a global level of conception and reconfiguration of educational spaces based on digital technologies. Educational institutions are advancing towards spaces and schemes that are more open, flexible, customizable, and with the capacity to quickly respond to the training needs of the population.

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The Embodied University: vindicating the human sense in distance university education.

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The cultural transformations of the last decades have been dedicated to the development of societies more dependent on digital technology, therefore, universities have played an important role in these social and cultural change, because it not only promotes the development of digital technology, but they become necessary tools for these institutions to work, but also contribute to the management, knowledge construction and learning that are mediated by these technologies. The consequences of adapting to these digital technological transformations are sometimes unexpected and unwanted, and loaded with contradictions where at one end it presents an accessible university education that allows us to connect, but at the other end of the curve it can generate processes of depersonalization and disassociation thanks to the mass learning, losing sight of the people who learn, teach and form, and these are exercises that occur in a context (from bodies, cultures and visions) and social interaction, where it is required the development of emergent skills and bonding to respond and promote changes that are required, from universities that are sensitive to the context. Our presentation assumes an embodied vision of a university that is based partially on the philosophies of Maurice Merleau-Ponty and Watsuji Tetsuro or the ideas of Carol Gilligan, Virginia Held, Luce Irigaray, but also on the second cognitive revolution or revolution of the approaches of embodied cognition.

The paradigmatic models, using the language and ideas so widespread of Thomas Kuhn can be identified as conceptual, technological, and social macroscopes with which a certain group of influential people with diverse financings see and build X contexts; these contexts can be scientific, philosophical, technological and because not making an extension of Kuhn's visions, even religious, theological, or cosmological.

Paradigms are systems that produce a specialized conceptual framework that serve as a linguistic game to describe the object or objects of research and production. Step by step, and beyond what Kuhn can explain, the system has dynamics of spontaneous appropriation and assimilation of the universe treated as real, by the time everything is interpreted from this supposed perspective. Become. Terminology is incorporated into everyday language through a process of assimilation, regardless of each speaker's occupation or level of education. In the scientific arena, therefore, the funding and research agenda revolves around a range of more or less dogmatic, sustainable and advocated issues, often subject to intensive scrutiny. not. If that succeeds, Kuhn would say, we could be headed for a classic earthquake.

There are many examples of this. At one point, phrenology was accepted as a sacred word, but it also lived as a truth of use and abuse. The current example may be the famous one, but one that does not stand up to close scrutiny: multiple intelligences or emotional intelligence. In fact, both of these concepts are so pervasive that reversing their popularity and damaging educational plans at all levels is very problematic.

Starting with the work of John B. Watson in 1913, behaviorism, which from the outset focused only on observable behavior and took a reductionist stance that refused to consider internal

mental processes, became known as paradigmatic seismicism. increased in the middle of the last century. New and powerful interdisciplinary and interdisciplinary approaches to human cognition, and thus human nature, are beginning to seriously challenge this issue. This new approach was soon dubbed the “cognitive revolution,” with names such as philosophy of mind, computer science, cybernetics, artificial intelligence, cognitive psychology, cognitive linguistics, and neuroscience, among others. Knowledge that interests the mind, how it is constructed, how it produces knowledge, how it learns, etc.

The Cognitive Revolution did not take long to generate its own epistemic subject, a human being who has as a simile an artificial processor or computer, a human as a system of memories that go from the immediate to the long term, a human being who processes contents of the world and of himself as a computer and with a deep language similar to that of second-order predicate calculations.

The human being of the Cognitive Revolution who criticized the machinile model of behaviorism also turned out to be machinile but in an informational sense.

The new subject would come to explain how the human being learn and to move with or at least accompany the pedagogies and didactics based on the behavioral approach to learning. Universities were not isolated from this and currently present hybrid approaches to behaviorisms (pedagogy, didactics and traditional curricular approaches) covered in some cases with a varnish of approaches by competences, skills or attributes; along with cognitive approaches of the Cognitive Revolution where the assimilation of contents is prioritized, these are organized as curriculum information and are inserted into students minds as computer programs currently mediated by the boom of the technology that we call Artificial Intelligence or Virtual Intelligence.

The problem to be solved in this new but old context is the friendly interface between systems such as AI and humans with computer-like minds. Pedagogy addresses this issue, and lessons thrive around the transmission and absorption of interesting and beautiful content. Universities are the democratization of knowledge (mass formation of information), ubiquitous (culture neglected, displaced and distant cultures of equality encouraged, trying to reach as many subjects as possible), and education for The idea of production responds to this movement. The labor market, the virtualization of its system, the digitization of education.

At the end of the last century, a second cognitive revolution occurred in the midst of the paradigms of cognitive paradigms that used computers as metaphors for the human mind. Born from a so-called analogue approach rather than a digitally informed one, this new movement quickly became not only a rebellious movement, but also a rich and highly productive one. From an interest in human cognition, with its over-emphasis on humans and the contributions of Western and Asian contexts and philosophies of the body, an embodied cognitive revolution emerges, also called the Second Cognitive Revolution or the E-approach. E's approach proposes a human being whose mind is an emergency of the body and whose body is nourished by that experience. It proposes socially structured themes that are socially, emotionally, historically, locally and technologically enhanced. Its impact is far-reaching as it ushers in a new era of formative, embodied and humanized processes.

Our suggestions are how a embodied remote university could be maintained, what changes this entails, how to humanize the process of virtualization or digitization, and It shows how we

respect the context and sense of community of a university where all kinds of people come together.

The meaning of a university with an embodied approach ranges from relevant ethical aspects to elements of the university's realistic and concrete relationship to physical and social situations. But it also means a constant attention to rethinking the use of virtual technologies and digitization processes, emphasizing aspects such as communal living, harmony, inclusivity and experience among others.

An organized university presupposes a break from the axis of administrative and local power, which is prominent at the level of knowledge production and science, and therefore reassessment of headquarters and centers. It also presupposes immersion in processes of socialization, dialogue, collective emotion and body resonance in all forms of university production.

Costa Rican undergraduate student's digital reading in distance education: Preliminary data

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Introduction

How much is too much? This is a frequent question asked by professors on regards the reading assignment given to our students, however, we must go back a few steps and ask first: *are they understanding the assigned readings?* This is particularly important in distance education, since, text is the main communication method.

In the university context, learning is inarguably related to reading, both teachers and students, must be experts mediating the knowledge construction processes from the diversity of existing written texts. Hence, this research is non-trivial, which also serves to reinforce pathways to create pertinent pedagogical and didactic reflection processes to enrich the reading exercise quality.

Costa Rican distance education is mainly driven by online learning, from accessing educational platforms, reading books, papers, and others, to performing their tasks on a computer, pushing students to interact with technology daily. Individuals are increasingly using digital media within academic contexts to search for information, resources and achieve their own learning goals (Singer et al. 2017). All this technology leads us to insight regarding digital reading, reading rate, and reading comprehension outcomes.

The reading rate has been used as a reading comprehension indicator until today, discussing the average of 300 words per minute (wpm) as a baseline since 1959, nonetheless, this has been a discussion topic until today, a meticulous review was exposed by Brysbaert (2019). However, reading comprehension requires analysis across a full document assimilating relation, reasoning, and information (Kocisky et al. 2018). There are multiple ways to measure reading comprehension, yet, is important to select one within the student context and the researcher's interest.

Reading involves more than understanding words, it takes thoughtful thinking and deep reflection to build meaning (metacognition), Vygotsky (1979) points reading as responsible for the development of higher cognitive processes, and Sweller (2011) as a biologically secondary knowledge, culturally important and needed to function adequately in society.

Therefore, digital reading becomes a main topic of interest in Costa Rican distance education, given that, relies on text. Yet there is not much known about how much readers comprehend when they read digitally, moreover, while studying. Baron (2017) discusses several papers regarding reading comprehension in digital whit mixt results in students' performance, while, Ratovskaya (2021) mentions that understanding a digital text is related to some aspects as cognitive reading operations and reader behavior, as well as, students support and training to approach digital text to have better outcomes.

Whether or not we feel comfortable, we are reading in a digital age and digital text comes with goodness never seen before, such as accessibility, portability, navigation aspects (Casselden

& Pears, 2020), and other features like built-in dictionaries, study ad-inn, etc. Therefore, the purpose of this research aimed to report preliminary data on Universidad Estatal a Distancia Special Education undergraduate students' digital reading comprehension.

Method

The data recollection was achieved through six online meetings available, and the individuals were able to attend one of them at any moment. The task to perform was conducted through a guided Lime Survey form.

Participants

Participants for this study were 23 undergraduate students enrolled in I (n=7) and IV (n=16) levels of the Special Education program at the Universidad Estatal a Distancia (Costa Rica). The sample was 100% female, with a mean age of 34.13 (SD=4.34) years old, who identify as white or mestizo (96%) and African American (4%), also, the participants demography represents all Costa Rican provinces across the country. The main reason for our choice of these study subjects was our interest in having competent readers on different levels. A second reason was the need to have individuals with the age of having studied by reading in print and digital. Finally, the program was interested in participating in the study and allowing the investigators to gather the information needed.

Experimental text

The expository-argumentative 965-word text called *La evolución y su historia* (Cela Conde & Ayala, 2001) was used to conduct the assessment. This topic is a basic content of the Costa Rican High school education system, hence, do not represent unknown or too familiar information to the individuals. The reading time measurement (reading rate) was recorded by a featured setting thru LimeSurvey. Before administration, students were instructed to read to fulfill a reading task.

Reading comprehension

We were interested in examining two main ideas: reading rate and global reading comprehension (GRC, %). Before reading, the individuals were given directions regarding the task to perform, they would read the experimental text and be asked to respond to five battery tasks regarding reading comprehension levels:

Literal: two multiple-choice questions.

Reorganization: one open graphic question.

Inferential: two essay questions.

Critical: one essay question.

Appreciation: one essay question.

There was no time limit to complete the assignment. This reading comprehension test, questions, and rubrics; are widely described by Guerra et al. (2013) who created the instrument called *ICLAU - Instrumento para medir Comprensión Lectora en Alumnos Universitarios* (University Students Reading Comprehension Assessment Instrument).

Descriptive statistics

Statistical analysis was to calculate percentages, means, standard deviations, and boxplots for the study variables (reading rate and global reading comprehension). The reading rate was measured by words per minute, whereas global reading comprehension was by reading levels percentage means. Shapiro-Wilk normality test and Spearman correlation were also performed.

Results

The global reading rate was affected by the lack of following instructions or errors caused by participants. At least 26% ($n=23$) of subjects did not complete reading the experimental text, ie, they skipped the text and resumed it as soon they felt the need to do so. We analyzed overall processing time, results are presented in Figure 1. As these data indicate, level IV has the highest average ($\bar{x}=133.44$, $SD=76.11$) while level I has the lowest average ($\bar{x}=171.51$, $SD=64.77$), overall, both levels have 158.07 ($SD=69.16$) wpm average.

All twenty-three individuals completed the reading comprehension task, whether or not, the experimental text avoidance. To determine the global reading comprehension, first, each of the five reading comprehension levels percentages were calculated, second, there were combined into a single mean percentage. Figure 2 presents the Boxplot of both program level group averages, in general, level IV has the highest global reading comprehension average ($\bar{x}=53.00\%$, $SD=12.94\%$) while level I has the lowest average ($\bar{x}=47.43\%$, $SD=12.09\%$), overall, both levels has a low GRC average: 51.30% ($SD=12.69\%$).

Given these two results, we were eager to know if there was any relation between these variables (reading rate and wpm and GRC, %). To do so, the Shapiro-Wilk normality test was applied to both variables resulting in a *mixed-value*, for reading rate (non-normal distribution, 0.012) and GRC (normal distribution, 0.428), so a Spearman correlation test was executed. The outcome indicated there is a slight correlation between variables $r_s=0.231$ but this is non-significant ($p<0.05$, $\bar{\rho}=0.414$), that is to say, global reading comprehension is not affected by reading rate and vice versa.

Discussion

This study shows that, even when individuals are willing to participate in reading research, there are certain behaviors or reading habits that could prevent them from acquiring knowledge. Information avoidance is a behavior documented before, Fuertes et al. (2019), indicated that a positive attitude towards reading leads students to more and better reading strategies leading to lower information avoidance. Related to these, Fitzsimmons et al. (2020) state that supported data suggest the loss of reading comprehension during skim reading. These two behavioral patterns could be the reason why some students did not complete the experimental text affecting some of the reading comprehension results as well.

As mentioned before, there is plenty of research regarding reading rates, whereas, our bibliographic review did not recall papers addressing reading rates in distance education students. Previous research has shown solid data that states range between 175–300 wpm;

in adults reading non-fictional text (Brysbaert, 2019), own bibliographical reviews research concluded a $183,05 \pm 68,92$ wpm average also, which, is similar to level IV results. There is no concluded ideal reading rate average while studying, neither for distance education students, therefore, the results here shown are only a reference for furthermore research.

On the other hand, reading comprehension results are alarming, regardless of the individual situation, the average shown indicates a deficient reading comprehension in both groups studied. Nevertheless, other researchers have had similar results applying the same reading comprehension method, indeed, Guevara et al. (2014) report a global reading comprehension of 66% in Mexican psychology students and Andrade & Utria (2021) reports a global reading comprehension of 45% in multiple career students in Colombia, both with deficient reading comprehension. There is an evident need to support the student to improve their reading comprehension, such as metacognitive strategies, motivation, skills, and reading habits towards digital media, so they can be autonomous and independent learners, also, able to set and achieve their own goals. Ekholm (2020) discusses the need for alternative literature didactics, Fajardo et al. (2016) urges the development of digital skills for digital reading and reading comprehension and Ratovskaya (2021) mentions the importance of student support and training to approach digital text. This opens ideas for further research and pathways to assist distance education students properly in their reading comprehension.

Finally, our results show that reading rate does not equal reading comprehension in this specific case, adding more discussion to Brysbaert's (2019) work. For this reason, it is not recommended to evaluate distance education students by this single variable, also, students reading behavior and sample size can be affecting data recompilation and results, therefore, we encourage future researchers to expand sampling efforts.

Conclusions

Students reading traits and behaviors can affect the experimental text reading, as well as, the study sample size. Also, the reading rate differs from other studies, besides, there is no ideal reading rate average while studying especially, for distance education students. Reading comprehension is deficient and it's urgent to support students to improve their digital reading. The reading rate does not equal reading comprehension, therefore, is not recommended to use the reading rate as a reading comprehension indicator.

From the statistical and methodological technicalities that we have just shown, first of all, make it clear, that the training exercise of universities must be a set of actions carry by studies that support the actions and allow improvements, not so, by formative intuitions, other people's experiences or traditions not passed through the critical and analytical apparatus. This study comes to provide resources for decision-making in the pedagogical, didactic, and curricular fields, but also, in the didactic materials production, the digital text instructions given, and the whole reading logic necessary for the formative process.

On the other hand, the existence of results with immediate indications presents us with a scenario where reading capacity, reading content, and suggestions for student learning processes must be reinforced. Sometimes we focus a lot on the aesthetic or technological aspects of the training processes, but without a background anchored in reading comprehension, they no longer

make sense in higher education. Sometimes, we focus on the training processes' aesthetic or technological aspects, but, without a strong background in reading comprehension, they no longer make sense in higher education. **(1904 words)**.

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Cross-Cultural Content Validation of an Online Engagement Framework

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Introduction

Engagement is an essential feature of successful student learning. Learning involves actively attending to a source of information or insight on the part of the learner (Hiver et al., 2021; Howard-Jones, 2018). Engaged students are committed to and emotionally immersed in their learning process; they can easily focus on academic tasks and are eager to deepen their understanding on different topics (Hiver et al., 2021; Perry, 2022). Student engagement, however, does not occur in a vacuum; it emerges in the context of a particular learning community (Hiver et al., 2021). According to Meyer (2014), an engaged learner is not only actively involved with the content itself, but also with peer students, faculty, and experience as a whole. Thus, both educators and institutions must be able to foster and support engaging learning environments to fulfil their educational mission, which, over the last decades, has led to an increasing research interest in the conceptualisation and measurement of the phenomenon of student engagement (Bond et al., 2020; Coates & McCormick, 2014; Perry, 2022).

Educational researchers have since found strong associations between engagement and other indicators of student achievement in higher education, for example, overall student satisfaction (Radloff and Coates, 2014), first-year student grades and persistence between the first and second year of college (Kuh, et al., 2008), self-reported learning outcomes in both face-to-face and virtual learning environments (Chen et al., 2010), and higher students' grades (Crampton et al., 2012; Romero and Barberà, 2011). Despite broad consensus and supporting evidence about the relevance of student engagement in higher education, there is still a lack of agreement among scholars regarding its conceptualisation, measurement, and pedagogical development, especially when it comes to online learning (Bond et al., 2020; Kahu & Nelson, 2018; Redmond et al., 2018, 2022). Following Astin's (1984/1999) seminal paper on student involvement and Fredricks et al.'s (2004) characterisation of the three key dimensions of student engagement (i.e., cognitive, behavioural, and emotional), multiple interpretations of this construct have been posited in the literature (Redmond et al., 2022). In a critical review, Kahu (2013) identified four dominant research perspectives on student engagement: behavioural (e.g., Kuh, 2009b), psychological (e.g., Fredricks et al., 2004), socio-cultural (e.g., Mann, 2001), and holistic (e.g., Bryson et al., 2009). Although each of these views has provided significant insights into student engagement, they only offer partial explanations about it, and hence a more comprehensive approach is still necessary to deepen our understanding of this construct (Kahu, 2013).

In response to considerations such as the above, Redmond et al. (2018) conducted a deductive thematic analysis of the literature on student engagement to develop a conceptual framework of this phenomenon in online higher education environments. Built upon current and emerging themes identified through constant comparison method, the Online Engagement Framework

(OEF) comprises five key elements or dimensions: “social engagement, cognitive engagement, behavioural engagement, collaborative engagement, and emotional engagement” (Redmond et al, 2018, p. 189). For each of these five components, the OEF introduces a working definition and a set of relevant indicators, so that the construct is potentially measurable and empirically testable. In this regard, Redmond et al. (2018) suggested that future research concerning this framework should be, in part, devoted to its statistical validation and application across various populations.

Although multiple survey tools have been developed internationally for measuring student engagement in traditional higher education environments —such as the National Survey of Student Engagement (NSSE; Kuh, 2009a) in the United States, the Australasian Survey of Student Engagement (AUSSE; Radloff & Coates, 2014) in Australia and New Zealand, the United Kingdom Engagement Survey (UKES; Rowan & Neves, 2021), the Irish Survey of Student Engagement (ISSE; Drennan et al., 2014), the South African Survey of Student Engagement (SASSE; Strydom & Mentz, 2014), the Chinese College Student Survey (CCSS; Ross et al., 2014), and the *learner engagement* indicator of the Student Experience Survey (SES; Challice et al., 2021), which is, in turn, part of the Quality Indicators for Learning and Teaching (QiLT; Australian Government Department of Education, Skills and Employment, 2020)—, further research and reflection on the particular characteristics and needs of online students is still required as teaching and learning worldwide have increasingly shifted online (Orr et al., 2020; Redmond et al., 2018). The OEF and a scale based on it might provide:

A reference point to inform the structuring and thinking behind institutional and systemic tools that seek to categorise engagement, student satisfaction, and other forms and measurements ... by adopting a more comprehensive interpretation and lens for determining learner engagement in the online environment. (Redmond et al., 2018, p. 198).

In this context, a joint research project was devised between University of Southern Queensland (UniSQ) in Australia and Universidad Estatal a Distancia (UNED, by its acronym in Spanish) in Costa Rica aimed at developing a scale based on the OEF and validating it at both universities. The initial phase of this project consisted in generating a preliminary pool of items in English and Spanish to assess students’ online engagement and conducting a study to gather evidence of content validity for the scale through expert and target population judgements. In this paper, we explore the key findings of this first study and discuss further directions for the ongoing project.

Method

Participants

Expert panel

Ten English speaking and 10 Spanish speaking scholars with extensive experience in topics related to online higher education, student engagement in higher education, or both voluntarily participated in the study without receiving any payment.

Target population panel

Twenty undergraduate students (10 English speakers, 10 Spanish speakers) over age 18 who were currently enrolled in online courses at UniSQ in Australia (5 women, 5 men) or UNED (5 women, 5 men) in Costa Rica voluntarily and anonymously participated in the study without receiving any payment.

Instruments

Online Engagement Scale

To measure online student engagement in higher education, we developed a preliminary scale primarily built upon the indicators put forward by Redmond et al. (2018) and then complemented by input from other studies and instruments available in the literature on this topic (Australian Council for Educational Research, 2011; Bond et al., 2020; Challice et al., 2021; Huston, 2020; Redmond, 2021). After a revision process by the research team, the test version of the scale comprised 181 items organised around five sections corresponding to each of the dimensions of online engagement identified by Redmond et al. (2018), namely: “social engagement, cognitive engagement, behavioural engagement, collaborative engagement, and emotional engagement” (p. 189). Depending on the content of items, we used either an agreement (from 1 = *strongly disagree* to 7 = *strongly agree*) or a frequency (from 1 = *never* to 7 = *always*) 7-point scale.

Content Validation Questionnaire

For the content validation of the Online Engagement Scale (OES), we developed a questionnaire including five variables. Two of them were close-ended questions aimed at assessing the relevance of each OES item within its corresponding dimension (from 1 = *low* to 3 = *high*) and the appropriateness of the rating scale proposed for each OES item (1 = *agreement scale*, 2 = *frequency scale*). The remaining three variables were open-ended questions delving into the wording of the OES items, further comments about them, and recommendations for additional items that might help to increase the representativeness of the content with respect to its specific dimension.

Instrument Translation

Both instruments were initially developed in English, then translated into Spanish, and finally back-translated into English to validate the consistency between the two versions.

Procedure

We sent an email request for voluntary participation to potential respondents of the content validation questionnaire. We then submitted the link to the full questionnaire to those who accepted the invitation. The instrument was made available online through UniSQ’s and UNED’s Lime Survey platforms. Upon giving consent, participants were provided with general instructions to complete the questionnaire, a working definition of each dimension in the OES scale, the probe statement introducing the OES items, and the set of items to be assessed. Data collection took place over four weeks.

Data Analysis

Close-Ended Question Analysis

The relevance and rating-scale appropriateness of individual items was calculated using the item-level content validity index (I-CVI) and corrected for chance agreement among panellists through the modified kappa statistic (k^*) as suggested by Polit et al. (2007). Given the size of the subsamples in this study ($n = 10$), we adopted cut-off points of I-CVI = .78 and $k^* = 0.74$ for OES items to be considered relevant or their rating scales appropriate (Polit et al., 2007). Additionally, the interrater agreement of each OES dimension was computed through the intraclass correlation coefficient (ICC) based on a single-measurement, absolute-agreement, two-way random effects model (Koo & Li, 2016) in the case of relevance, and through Fleiss' kappa (k ; Fleiss, 1971) in the case of rating-scale appropriateness. ICCs and k s were calculated using the irr package (Gamer et al., 2022) for R. Finally, judgement consistency across panellist subsamples (i.e., English speaking experts, Spanish speaking experts, English speaking students, and Spanish speaking students) was estimated for each OES dimension through the Spearman's rank correlation coefficient (r) of the k^* statistic.

Open-Ended Question Analysis

Open-ended questions referring to wording, feedback on items, and recommendations for new items were coded into categories and thoroughly discussed within the research group before making any changes to the OES.

Results and Discussion

Given that this study is still in progress, we are unable to report results at the moment. However, by the end of August 2023, we expect the ensuing outcomes from the content validation process for both the English and Spanish versions of the OES: (a) a refined set of items as a result of retaining those considered relevant, revising problematic ones, and deleting those rated as irrelevant; (b) a representative set of items for each dimension from recommendations of new items; (c) most appropriate rating scales for each item; and (d) improved wording clarity and conciseness throughout the scale.

At this point, the main limitation of this study is that OES's content has been only validated in the two contexts described above. We welcome scholars from around the world interested in online student engagement to join this initiative and collaborate in the validation of the OES across distinct populations. Another potential limitation that this study might face involves the diversity of educational models implemented at different universities. For example, in our case, whereas UniSQ has both on-campus and online study modes, UNED is a fully-distance institution that, since the COVID-19 outbreak, has shifted its entire academic provision online. Therefore, controlling for variants of students' online experience should be taken into account in our analysis model.

Results from this study will inform the second phase of the project, which will consist in gathering evidence of OES's internal validity, reliability, and fairness through an online administration of the instrument to a representative sample of undergraduate students from UniSQ ($n = 800$), UNED ($n = 800$), and, if possible, other participating institutions. A revised version of the OES is expected to enable faculty to better understand online students' engagement and their learning needs, and to inform institutions' evidence-based decision-making to improve teaching and learning quality. Unlike most approaches to this topic, the incorporation of the social and collaborative dimensions of engagement into our model, would also allow scholars to understand how the support of a learning community favours individual knowledge-building processes. Finally, from

an international point of view, this project represents an opportunity to undertake cross-cultural validation of the OES and to foster collaboration among different regions in the world, as it has been the case between Australia and Latin America.

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El Futuro de las Organizaciones de Aprendizaje: El Impacto y Desarrollo de la Inteligencia Artificial en la Transformación Académica hacia Diseños Curriculares Flexibles

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Introducción

En el contexto actual de la educación superior a distancia, la transformación sostenible de la sociedad y el desarrollo tecnológico acelerado se ha vuelto esencial que las instituciones académicas se adapten a las tendencias internacionales y a las directrices establecidas por la UNESCO en cuanto al uso responsable de la inteligencia artificial (IA) en la educación. Las principales ideas que la UNESCO (2021) ha presentado en los últimos tres años sobre la inteligencia artificial en la educación, su desarrollo, su fundamentación ética y su potencial para apoyar los procesos educativos a nivel mundial. Estas ideas se han plasmado a partir de la Conferencia Internacional sobre la inteligencia artificial en la Educación que realizó la UNESCO en Beijing con el tema 'Planificar la educación en la era de la IA: un paso más hacia adelante' (UNESCO, 2019c, 2019a, 2019b).

La IA emerge como una herramienta clave para la evolución de las organizaciones de aprendizaje, permitiendo el diseño de currículos flexibles que atiendan las necesidades individuales de los estudiantes. En esta ponencia, se aborda el impacto y desarrollo de la IA en la transformación académica hacia diseños curriculares flexibles, teniendo en cuenta la argumentación señalada en varios de los informes desarrollados por la UNESCO en los últimos años. Por ejemplo, se toman en consideración el documento que trata la "Artificial Intelligence in Education: Challenges and Opportunities for Sustainable Development" (ONU, 2019) y el documento denominado "Inteligencia artificial y Educación, Guía para las personas a cargo de formular políticas" (UNESCO, 2021).

Justificación

La UNESCO ha destacado que el uso de la IA en la educación puede mejorar significativamente la calidad de la enseñanza y el aprendizaje, siempre que se implemente de manera ética y responsable (UNESCO, 2020). En este sentido, el diseño curricular flexible, impulsado por la IA, se alinea con las recomendaciones de la UNESCO para promover una educación inclusiva y equitativa, además que se estaría cumpliendo con el artículo 4 de la ley sobre la creación de la Universidad Estatal a Distancia (UNED) donde se señala que el proceso formativo hasta donde sea posible será individualizado (Ley N. 6044, 1977).

Las tendencias internacionales en educación destacan la importancia de personalizar el aprendizaje y adaptar los contenidos educativos a las necesidades individuales de los estudiantes (OECD, 2021). La implementación de currículos flexibles basados en la IA es coherente con estas tendencias, ya que permite una mayor personalización y adecuación a las demandas cambiantes del mercado laboral.

Desarrollo

Impacto de la Inteligencia Artificial en la Transformación Académica

La UNESCO señala que la IA puede ser una poderosa herramienta para mejorar la calidad de la educación, siempre que se utilice de manera ética, transparente y justa (UNESCO, 2020). Al analizar datos y preferencias de los estudiantes, la IA puede personalizar el aprendizaje y ofrecer recomendaciones individualizadas, fomentando así la retención y la motivación de los estudiantes en las universidades.

La inteligencia artificial puede tener un impacto significativo en la identificación temprana de dificultades de aprendizaje y en la implementación de estrategias de apoyo personalizadas para cada estudiante (Siemens & Gasevic, 2020). Los sistemas de IA pueden analizar datos sobre el rendimiento académico y las interacciones de los estudiantes con los materiales de aprendizaje, lo que permite a los educadores detectar patrones y tendencias que indican la necesidad de intervención individualizada.

Asimismo, las tendencias actuales en educación hacen hincapié en la importancia de desarrollar habilidades del siglo XXI, como el pensamiento crítico y la resolución de problemas (OECD, 2021). La IA puede contribuir a este propósito mediante la creación de entornos de aprendizaje que fomenten el desarrollo de estas competencias, permitiendo que los estudiantes adquieran habilidades relevantes para su futuro profesional.

Además, la implementación de la IA en la educación también puede ayudar a superar las barreras geográficas y socioeconómicas, brindando acceso a la educación de calidad a estudiantes de diferentes regiones y contextos (UNESCO, 2020). La educación en línea y el uso de plataformas educativas basadas en IA pueden democratizar el acceso al conocimiento y reducir la brecha educativa entre poblaciones.

Desarrollo de Currículos Flexibles

La UNESCO resalta que el diseño curricular debe ser inclusivo y adaptarse a la diversidad de los estudiantes (UNESCO, 2020). La implementación de currículos flexibles basados en la IA permite ofrecer diferentes opciones de aprendizaje, considerando las particularidades de cada estudiante y promoviendo la equidad en la educación.

En un enfoque tradicional, los currículos se diseñan con un enfoque homogéneo, lo que puede no ser adecuado para todos los estudiantes, especialmente aquellos con diferentes estilos de aprendizaje (Villegas, Sánchez-Barba, Sánchez-García, & Galindo-Villardón, 2018; García, Santizo, & Alonso, 2009; Isaza, 2014; Vega-Hernández, 2018; la educación universitaria ha sufrido numerosos cambios que afectan a estudiantes y docentes debido a la implantación de nuevos planes de estudios basados en el sistema ECTS (European Credit Transfer System) (Anselmo, 2013) y ritmos de estudio (Sahiti et al., 2019). Los diseños curriculares flexibles, apoyados por la IA, pueden adaptarse a las preferencias y necesidades individuales de los estudiantes, brindándoles una experiencia educativa más enriquecedora y significativa.

La implementación de currículos flexibles también requiere una revisión constante de los contenidos para mantener su relevancia. La IA puede analizar datos del mercado laboral y

tendencias económicas para ajustar los programas académicos y asegurar la pertinencia de las habilidades y competencias desarrolladas.

El diseño de currículos flexibles también puede mejorar la retención estudiantil y el rendimiento académico. Según investigaciones recientes, los estudiantes que tienen más control sobre su proceso de aprendizaje y pueden elegir entre diferentes opciones tienen una mayor tasa de éxito académico. Al brindar a los estudiantes la capacidad de personalizar su experiencia educativa, se fomenta su motivación y compromiso con el aprendizaje.

Alcance de la ponencia

La ponencia consiste en proponer una estrategia para un sistema de aprendizaje basado en IA que integre la personalización de los currículos y ofrezca una amplia gama de opciones educativas, siguiendo las recomendaciones de la UNESCO y las tendencias internacionales en educación.

En primer lugar, la propuesta utilizará la IA para recopilar y analizar datos sobre el rendimiento estudiantil y las preferencias de aprendizaje. Esto permitirá ofrecer recomendaciones individualizadas y adaptar los contenidos a las necesidades de cada estudiante.

En segundo lugar, el sistema implementará asistentes virtuales y sistemas de tutoría inteligente, siguiendo los principios de ética y transparencia establecidos por la UNESCO. Estos sistemas brindarán apoyo personalizado y fomentarán el desarrollo de habilidades del siglo XXI, como el pensamiento crítico y la resolución de problemas.

Por último, el sistema ofrecerá diferentes opciones de aprendizaje para promover la diversidad y la inclusión en la educación. Al adaptar constantemente los contenidos educativos según las demandas del mercado laboral y las tendencias en la sociedad, se garantizará que los estudiantes adquieran habilidades relevantes y estén mejor preparados para enfrentar los desafíos del mundo actual.

La propuesta también busca fomentar una mayor colaboración entre estudiantes, educadores e instituciones. La IA puede facilitar la creación de comunidades de aprendizaje en línea, donde los estudiantes pueden interactuar y compartir conocimientos y experiencias, enriqueciendo así su proceso educativo (Echeverría et al., 2022). Además, la colaboración entre instituciones académicas permitirá el intercambio de buenas prácticas y la co-creación de recursos educativos, impulsando la mejora continua de los programas académicos.

En el ámbito de la evaluación, la IA puede ofrecer nuevas oportunidades para medir el progreso y el desempeño de los estudiantes de manera más objetiva y precisa. Los sistemas de evaluación basados en la IA pueden analizar el desempeño individual y proporcionar retroalimentación inmediata, lo que permite a los estudiantes identificar áreas de mejora y ajustar su aprendizaje de manera efectiva (Vides-Porras et al., 2021). Esto, a su vez, puede contribuir a una mayor motivación y compromiso con el aprendizaje, al ver resultados tangibles de su progreso.

Es importante mencionar que la implementación de la IA en la educación también plantea desafíos y consideraciones éticas. La UNESCO destaca la necesidad de garantizar la privacidad y seguridad de los datos de los estudiantes, así como evitar la creación de sistemas que perpetúen

sesgos y desigualdades sociales (UNESCO, 2020). Es fundamental abordar estos aspectos para garantizar una implementación responsable de la IA en el ámbito educativo.

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Gamification: an innovative strategy for the online course Technology applied to tourism at the Universidad Estatal a Distancia de Costa Rica (UNED)

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La gamificación en contextos universitarios en línea

La gamificación es una estrategia didáctica que consiste en aplicar elementos del juego al proceso de enseñanza y aprendizaje, con el fin de motivar, involucrar y retar a los estudiantes. Desde el año 2020, un grupo de profesores de la Universidad Estatal a Distancia de Costa Rica (UNED) ha trabajado en desarrollar una asignatura virtual bajo esta metodología utilizando diferentes herramientas tecnológicas para crear actividades interactivas, lúdicas y colaborativas.

Planificación de la propuesta

Se trabajó con un equipo de co-diseño multidisciplinario por más de 8 meses, en el diseño gráfico del entorno, los contenidos y las experiencias de aprendizaje. Se requirió una coordinación entre todas las personas tutoras participantes. Además, del conocimiento, selección y uso de diversas tecnologías.

Entre el personal activo que trabajó en la propuesta se integran:

- Dos profesores: una titular y un profesor de apoyo
- La encargada de la Cátedra de Emprendedurismo Turístico, a la cual pertenece la asignatura

Adicionalmente este grupo base, trabajó con:

- Una productora académica y la diseñadora gráfica del Programa Aprendizaje en Línea de la UNED
- Una asesora curricular del Programa de Evaluación de los Aprendizajes de la UNED

Durante el proceso de planificación de la asignatura, se realizaron varias reuniones en las que se utilizó la técnica del brainstorming, esto como un filtro para descartar o mantener las ideas que se ajustaban al perfil de los estudiantes y a los contenidos de la asignatura. Para las ideas que prevalecieron en la lista, fueron reforzadas con información que permitía sustentarlas didácticamente, por ejemplo: metodologías innovadoras en e-learning, e-actividades y técnicas, así como las herramientas tecnológicas que se ajustaran a los dos criterios anteriormente citados.

El diseño gráfico se gestó bajo la premisa de la metáfora pedagógica de un comic, con base en este diseño se elaboró el siguiente material: un encabezado principal que incluye a los profesores en diferentes espacios, cuatro sub encabezados, dos etiquetas, dos fondos de pantalla y ocho figuras circulares que ilustran el camino a seguir para cumplir con las actividades.

Herramientas utilizadas

La asignatura denominada Tecnología aplicada al turismo código 05460, se facilita en el Campus Virtual AprendeU en el sistema de gestión de aprendizaje (LMS por sus siglas en inglés). Moodle ofrece diversas funcionalidades para gestionar el contenido, la comunicación y la evaluación del aprendizaje. Entre las herramientas nativas de esta plataforma que se emplearon en la asignatura se encuentran: Base de datos, Lección, Taller, Foro y Tarea. Las cuales permiten diseñar actividades que promueven la autonomía, la reflexión, la realimentación, el intercambio y la coevaluación entre los estudiantes.

Asimismo, en la asignatura, se emplearon otras herramientas externas tales como: Genially y Educaplay, las cuales facilitan la creación de contenidos multimedia, interactivos y gamificados, que se pueden insertar en Moodle mediante códigos HTML o enlaces web. En el caso de la herramienta Educaplay, funciona bajo el estándar LTI que permite establecer una comunicación directa con el LMS, de manera tal que funcione como una aplicación nativa que se comunica con el centro de calificaciones de Moodle para mostrar al estudiantado las calificaciones obtenidas una vez que resuelva las actividades programada; a estas herramientas externas también se suman el uso de SCORM, aplicaciones de Google, Microsoft Teams y Redes sociales.

En la misma línea, la herramienta H5P facilita la creación de un sinfín de recursos y actividades interactivas. Algunos ejemplos de contenidos gamificados que se pueden elaborar con esta herramienta son: cuestionarios, crucigramas, sopas de letras, rompecabezas, flash cards, vídeos interactivos, infografías y presentaciones entre otros.

El estudiantado por su parte, debe emplear herramientas externas para la creación de contenidos tales como: Pixton, Emaze, Powtoon, ReadyMag, Thinkling, Google Earth y Canva entre otras todas ellas se utilizaron en su versión gratuita.

Metodología

Esta propuesta fue empírica del tipo no experimental bajo el enfoque cualitativo. Desde el modelo instruccional de la UNED de Costa Rica se desarrolló la asignatura en línea Tecnología aplicada al turismo. Las estrategias, herramientas y actividades gamificadas incluidas en la asignatura fueron incorporándose de forma paulatina en cada oferta de la asignatura desde el año 2020 que se ofreció por primera vez.

Para el diseño de la asignatura se utilizó el diseño curricular elaborado por la encargada de la cátedra de Emprendedurismo turístico en acompañamiento de una curriculista del Programa de Asesoría curricular Evaluación de los Aprendizajes de la UNED (PACE). Este diseño contiene los objetivos, contenidos, evaluación, recursos y actividades que se pueden implementar según las horas de distribución, complejidad y profundidad de las temáticas.

Para el diseño y organización de la asignatura en línea se utilizó la Matriz de diseño y organización de asignaturas y cursos en línea de la UNED de Costa Rica, en este instrumento se detalla cómo se estructura la asignatura, se definen las actividades, recursos y se especifican los tipos de instrumentos de evaluación por emplear según cada actividad. Esta labor fue desarrollada en forma conjunta por los profesores de la asignatura bajo la tutela de la productora académica del Programa Aprendizaje en Línea de la UNED.

Asimismo, se emplearon formularios elaborados en Google Forms para conocer la percepción del estudiantado sobre el abordaje de la asignatura. Para el análisis de la información se utilizó la herramienta Microsoft Excel.

Actividades propuestas

Para incentivar la participación activa del estudiantado a las actividades se les llama Desafíos, se emplean además unas actividades adicionales como comprobación de lectura o escucha de los recursos creados, a estas se les denomina Pistas.

Se crean los espacios de Tecnoteca y TecnoPostIt, en la primera, se colocan a modo de ejemplo aquellos trabajos de estudiantes de las ediciones anteriores que el profesorado consideró como los que mejor se ajustaron a las instrucciones facilitadas, en el caso de la sección TecnoPostIt se colocan los mejores trabajos entregados por el estudiantado en la versión actual de la oferta.

La asignatura incluye una gira didáctica presencial, misma que se facilita en dos diferentes provincias: Cartago y Puntarenas. La gira se realiza como un tipo rally, en la que el estudiantado debe descifrar una serie de enigmas y candados digitales para conocer la ruta a seguir. Para esta actividad se emplearon las herramientas de Google a saber: Forms, Maps y Drive así mismo se emplearon las redes sociales: Instagram y Telegram.

Es importante mencionar que una de las novedades de la implementación de esta metodología es que facilitó la producción de contenidos por parte de la persona estudiante, ya que estos en cada desafío debían crear material digital y aprender cómo aplicarlos en sus futuras áreas profesionales.

Discusión

Retos, conclusiones y algunas recomendaciones para su puesta en marcha

Retos

- La conectividad, es decir, el uso de Internet es alta para desarrollo de las actividades de aprendizaje de esta asignatura, por cuanto se utilizaron una serie de herramientas de acceso libre y disponibles en la web. Esto podría ocasionar inconveniente a la persona estudiante, porque la conectividad no es igual en todo el país.
- La incorporación de la metodología gamificada es un ejemplo de cómo se puede aprovechar el potencial de las tecnologías digitales para mejorar la calidad de la educación a distancia. Sin embargo, también implica algunos retos y desafíos, como: mantener el equilibrio entre lo lúdico y lo académico, seleccionar las herramientas adecuadas para cada objetivo de aprendizaje, garantizar la accesibilidad y la usabilidad de los contenidos gamificados, y evaluar el impacto de la gamificación en el rendimiento y la satisfacción de los estudiantes. Por ello, es importante realizar un seguimiento y una evaluación continua del curso virtual gamificado, así como recoger las opiniones y sugerencias de los participantes.

Conclusiones

La experiencia de aprendizaje permitió cumplir los objetivos de la asignatura al facilitarle al estudiantado herramientas tecnológicas que les permitan: planificar, gestionar, promocionar, optimizar y evaluar de forma integral su aprendizaje, los procesos turísticos y los beneficios del uso de internet. Además, la metodología implementada permitió:

- Aumentar la motivación del estudiantado con la incorporación de las redes sociales y un acompañamiento casi personalizado con la incorporación del profesor(a) de apoyo.
- Desarrollo de competencias sociales y digitales en el trabajo de las actividades colaborativas, así como en el desarrollo de los contenidos producidos por el estudiantado con el uso de las herramientas presentadas.
- Potencia el pensamiento crítico a través de uso de técnicas lúdicas específicamente en la resolución de las pistas.
- La experiencia de la puesta en marcha de la asignatura Tecnología aplicada al turismo bajo la metodología de la gamificación ha sido positiva y enriquecedora tanto para los profesores como para los estudiantes. Los profesores han podido innovar en sus prácticas docentes, adaptándose a las nuevas tendencias educativas y a las necesidades de los estudiantes. Los estudiantes han podido disfrutar de un aprendizaje más dinámico, divertido y significativo, que les ha permitido desarrollar competencias digitales, cognitivas y socioemocionales.

Recomendaciones

- Utilizar encuestas para conocer si los desafíos satisfacen o no la experiencia de aprendizaje del estudiantado.
- Contar con profesor (a) de apoyo de la asignatura que le permita dar soporte, junto con la persona tutora al estudiantado.
- Para el diseño de la experiencia de aprendizaje se debe contar con un equipo interdisciplinario.
- Para empezar con una propuesta como esta, evitar iniciar con grandes desafíos. Estos deben incrementarse en cada oferta, de manera que le permita al profesorado, ajustarse a las necesidades del estudiantado y a su entorno.

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Posters abstracts

The teaching of physics in distance education: A model in construction

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The Chair of Physics for Engineering of the UNED has implemented a series of strategies to facilitate the mediation in the teaching of physics in Distance Education, through a virtual environment, to achieve the learning objectives, starting with the review of technical aspects of the environment and the resources of the subject. In the different subjects, a learning path has been elaborated with a structure that contains: introductory videos, reading and reflection of the material, video tutorials of the theoretical contents, synchronous video tutorials for clarification of doubts and explanation of exercises and problems, video tutorials for review before each test, practices and evaluations; accompanied by hands on and remote laboratory activities. Due to the fact that the model is under construction, continuous improvement processes of resources and instruments of the different subjects, both theory and laboratory, are carried out. The structure of this model has reduced desertion and increased the approval rate of students in the different subjects of the course.

The Impact of the Pandemic on Distance Higher Education in Costa Rica: Challenges and Benefits in Students' Academic Formation

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The COVID-19 pandemic has caused significant disruption to higher education systems around the world, and Costa Rica is no exception. With the sudden closure of universities and the need for social distancing measures, universities had to shift to online and distance learning formats in order to continue providing education to their students. This sudden shift to distance learning has had both challenges and benefits for students in Costa Rica. On the one hand, many students have reported feeling overwhelmed and disconnected from their studies due to the sudden change in format. Students who may have struggled with online learning in the past or who do not have access to reliable technology or internet connection have found it particularly difficult to adapt to this new learning environment. On the other hand, distance learning has also presented some unique benefits for students. For example, many students have been

able to attend classes remotely, eliminating the need for long commutes or relocation. This has allowed them to better balance their academic and personal responsibilities. Additionally, the use of technology in distance learning has enabled students to interact with each other and their instructors in new and innovative ways. In terms of the impact on academic formation, the sudden shift to distance learning has created some challenges for students in Costa Rica. For example, students may struggle to stay engaged and motivated in a remote learning environment, and some may find it difficult to maintain a sense of connection and community with their peers and instructors. This can lead to feelings of isolation and detachment from their studies. However, distance learning has also presented some unique opportunities for academic formation. For example, students have had to develop new skills such as time management, self-motivation, and online communication in order to succeed in a remote learning environment. These skills will be valuable not just in their academic pursuits but also in their future careers. Another advantage of distance learning in Costa Rica is the potential for increased access to education. Students who may have previously been unable to attend classes in person due to geographic or logistical constraints can now attend classes remotely, thus increasing their access to higher education. In conclusion, the shift to distance learning in Costa Rica due to the COVID-19 pandemic has presented both challenges and benefits for students in terms of their academic formation. While some students have struggled to adapt to the new learning environment, others have found it to be a more flexible and accessible way to pursue their education. As we move forward, it will be important to continue to examine the impact of distance learning on students in order to ensure that all students have the opportunity to succeed in their academic pursuits.

Enhancing Student Learning through Student-Centered Teaching Methods and HyFlex Implementation

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Teaching methods that are valid, effective, and focus on a student-centered approach are the primary focus of enhancing student learning. By revising and adapting teaching pedagogy, the quality of education provided to students can be enhanced. Implementing a HyFlex format allows for flexibility within the course, accommodating external factors that may hinder a student's ability to complete their studies, such as family commitments, work obligations, weather conditions, and transportation challenges. improves the ability to provide quality learning for students and allows students to engage in the format which best meets their needs. A pre-and post-test quasi-experimental design was employed to investigate the relationship between learning mode and student learning outcomes. The study aimed to measure differences in student achievement and explore the benefits and barriers of the HyFlex course from students' perspectives. Statistical analysis was conducted to identify significant differences between learning mode groups. This study contributes to the understanding of HyFlex teaching practices and provides evidence to support the implementation of HyFlex approaches in education.

API for the prevention of VM (Virtual Machine) being used for e-malpractice in an AI Proctored exam system in e-learning environment.

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In this poster, we introduce a new approach that provides security to improves an AI proctored examination system by utilizing technologies, which is API Patrol that can detect and block Virtual Machine (VM), used by Examinee to cheat in an AI Proctored Examination system. Previous intelligent Proctored Examination system has mechanism/ intelligence for detecting internet protocol (IP), the behavior face detector used for tracking eyes, mouth opening, and speech recording by the microphone, facial recognition, Biometric Authentication, prevention and detection of external smart phones, screen sharing software when in use. The existing system has no idea or intelligence for detecting Virtual Machines launched within a system, in a system unit during virtual AI Proctored examination System for cheating and impersonation. The proposed system is not an e-assessment system; there is already a comprehensive system in place saddled with these responsibilities, but rather an over-arching system that provides the monitoring and tracking of candidate's system ports during an e-assessment. We conclude that, it is possible to improve the security system of an AI Proctored Online Examination System using API Patrols that will be incorporated into an existing system, (integrated Interactive Proctored Exam system) IIPES to fulfill a secured virtual Proctored examination System.

Unveiling the Untold: ChatGPT's Disruption on Perceptions and Challenges Faced by Students and Lecturers in an Open Distance and E-Learning University

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This study investigates the impact of ChatGPT on perceptions and challenges faced by students and lecturers in an Open Distance and e-Learning (ODEL) University. ChatGPT, a cutting-edge language model developed by OpenAI, has gained significant attention for its ability to generate coherent and contextually relevant responses. The study aims to explore whether ChatGPT disrupts the traditional perceptions of online distance education held by students and lecturers. Additionally, the study seeks to identify specific functions and features of ChatGPT that contribute to addressing challenges faced by students and lecturers in an ODeL university in South Africa. As ChatGPT is a new phenomenon, this article seeks to address a gap in the literature on the impact of AI chatbots on perceptions and challenges faced by students and lecturers in online distance education. Drawing upon the sociocultural theory, which emphasizes the role of social interactions and cultural contexts in shaping individuals' learning experiences, this research seeks to shed light on the transformative effects of ChatGPT on teaching, learning, and communication dynamics within the ODeL context. The research employs a qualitative approach, comprising evaluations and focus group discussions with students, as well as one-on-one interviews with lecturers. The findings reveal that students found ChatGPT to be more engaging and interactive than traditional online learning platforms, and they reported feeling

more connected to their peers and lecturers. However, lecturers reported negative attitudes toward the use of ChatGPT in their modules. In addition, the study identified specific functions and features of ChatGPT that facilitated its contribution to addressing challenges faced by students and lecturers. These include ChatGPT's ability to provide personalized feedback and support, its use of natural language processing to enhance communication and comprehension, and its provision of instant access to information and resources. The study's findings will contribute to a better understanding of the role that AI chatbots can play in enhancing online learning experiences and mitigating challenges faced by students and lecturers in ODeL.

Positive Digital Practices: Embedding mental wellbeing in technology-enhanced learning

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Student mental wellbeing is a significant issue in higher education, as increasing numbers of students are experiencing mental health difficulties. Distance and technology-enhanced learning is uniquely positioned to make a change for good in the sector, support hard-to-reach students and make positive changes to practice. Funded by the UK Office for Students, the Positive Digital Practices project is scaling up positive practices in technology-enhanced learning, creating resources to support practitioners in three areas: - Positive learner identities - with digital tools to support students' emotional awareness, encourage help-seeking behaviour, recognise achievements and value learning opportunities; - Positive digital communities - supporting students' sense of belonging and purpose, provide informal peer support and facilitate meaningful connections that do not rely on a campus environment; - Positive digital pedagogies - supporting learners to engage in technology-enhanced learning in a way that is inclusive and supports mental wellbeing. This poster showcases the project outputs: forty open access resources, co-created by university staff and students, to support wellbeing in technology-enhanced and distance learning. These resources are a call to action for university practitioners across the world to work together to enhance student mental health and wellbeing, and make education a more inclusive, equitable experience.

Project Model of digital competencies for teachers in distance, open and on-line education of the State University (UNED) of Costa Rica

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The academic field is the most suitable area for developing competencies and skills in accordance with the demands of a labor market that requires highly trained professionals capable of effectively facing changes. Technology, in constant evolution and permeating all areas of life, generates capabilities known as digital competencies. It is believed that the stakeholders

involved can develop these competencies to a greater extent through the educational process, enabling them to adequately address emerging challenges in this field. Therefore, a model of digital teaching competencies focused on distance, open, and online education was designed for the Distance State University of Costa Rica. The model consists of six dimensions and their respective criteria that allow its practical implementation. To develop the model, qualitative research of descriptive scope was carried out, in which, through documentary research, the state of the art was established. Based on the analysis of existing models, one was proposed that aligns with the characteristics of the University, enabling the strategic use of technology in the pedagogical domain and its effective utilization in virtual classrooms.

A Design of EdTech Contents Quality Assurance Criteria in Higher Education

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As for the utilization of new ICT, various EdTech tools are appearing to support educational environments and teaching-learning methods, and various educational services centered on cloud computing-based platforms are being provided. As various EdTech tools are expected to increase and spread in distance education, a quality assurance plan to ensure users' choice and effective use is needed. This study designed evidence-based EdTech quality assurance criteria for using high-quality EdTech tools in distance education. In order to achieve the purpose of the study, it was conducted with research contents such as drawing implications through relevant study reports and case analysis, developing evaluation certification system such as evaluation criteria for evaluation certification, and designing the evaluation certification system. In order to achieve the purpose of the study, it was conducted with evaluation criterion design, evaluation certification system design, and policy proposals for quality assurance of EdTech tools through relevant literature and case analysis. As a result of the study, the evaluation criteria were divided into TA(Technology Assurance) and UA (Usability Assurance) areas. In the TA, 5 evaluation indicators (purpose, convenience, sustainability, integrity/stability, accessibility) and 13 evaluation items were developed, and in the UA area, 7 evaluation indicators (purpose, usability, functionality, compatibility, sustainability, integrity/security, ethics) were developed. and 20 evaluation items were developed.

Accessibility and OER

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For Open Educational Resources (OER) to fully contribute to a more equitable and inclusive ecosystem, principles of accessibility and Universal Design For Learning (UDL) must be embedded in their creation as much as possible. The Purpose of our poster is to illustrate the importance of this point in three ways. First, we will succinctly expose the poster-reader to the state of the art in how OER content can be evaluated, based on the UDL (UDL) principles created

by CAST (originally, and acronym for the Center for Applied Special Technology - www.cast.org). CAST created these principles as a means of articulating the sort of educational materials and experiences which are conducive to all types of learners. Second, we will present on how the overall OER landscape fares with respect to these accessibility standards, by evaluating a random sample of materials from the OER Commons. This will give the poster-reader a sense of the extent to which accessibility is a challenge for the diverse set of learners OER is aiming to serve. Third, we will provide a brief overview of ISKME's efforts, in partnership with CAST, to assist OER creators and curators in increasing the amount of accessible OER content. This third purpose will include ways in which interested poster-readers can avail themselves of more information on this vital subject.

Creating an online free educational resource to support learners navigate their studies alongside work and/or family

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Sustainable Development Goal 4 articulates global commitment to promoting lifelong learning. Mature learners, whilst a diverse group, are more likely to have existing work and/or family responsibilities. Nonetheless, the challenges in creating a balance between a student's tertiary education alongside their domestic and/or employment responsibilities is a dominant theme in research. Mature students may also be more likely to be studying part-time, at a distance or be 'commuter' students. Different levels of engagement within the campus environment can impact on a students' sense of belonging, wellbeing, their academic outcomes, and can result in difficulties in accessing support. The Open University has a commitment to providing free online educational resources via OpenLearn. 'At a crossroads: navigating work and/or family alongside study' is an open educational interactive that focuses on an engaging dramatization that allows users to explore potential challenges faced by students when managing their studies alongside work and/or family commitments and then consider evidence informed strategies or supports that are available to them. The interactive was informed by survey research with distance education students and by consultations with and feedback provided by students from across the UK. This poster will provide an overview of the interactive and its key features.

Transferable Sustainability Skills into the Teaching-Learning Strategies at the University of Guadalajara

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The aim of this study is to assess the incorporation levels of transferable sustainability skills (TSS) into the teaching-learning strategies (T-LS) which the lecturers at the University of Guadalajara could implement within their courses. Such skills are indeed proposed as objective 4.4 by the 2030 Agenda. Research question is: How to assess and to categorize incorporation levels of TSS of teachers' T-LS in their courses? Method applied was quantitative-descriptive. Instrument used was a Likert scale survey to evaluate 276 T-LS. Participants are lecturers who lead courses at bachelor's, master's and doctoral degrees. The results of non-parametric ANOVA test reported significant differences among TSS' and in the mean scores (Chi-square = 52.66, $p < .0001$). It was noticed that 3.62% reached very-good level because they were conducive to the development of TSS in the T-LS; 92% of lecturers were classified at the good and minimum levels. Finally, 3.99% of them were at the insufficient level. The TSSs most favored in T-LS were digital, communication skills and teamwork. On another hand, the competencies with lowest scores were problem solving, critical thinking and creativity.

Satisfaction and engagement: critical factors in a blended learning environment

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This work studied the relationship between perception and course satisfaction variables based on students' engagement in a blended learning environment. Methods: All data were analyzed using an analysis of partial least squares, which was used to validate the instrument. Results: It was found that (1) the student's satisfaction in the blended learning was influenced by the emotional engagement and the perceived playfulness of the blended learning platform; (2) perceived usefulness, perceived ease of use, and perceived interaction indirectly influenced students' satisfaction with the course through emotional engagement; (3) the perceived usefulness had a stronger direct influence on students' cognitive engagement and emotional engagement in blended learning. Conclusions: These results demonstrate that emotional engagement mediates perception and student satisfaction. Furthermore, the implications for teaching practice were discussed; the limitations and suggestions for future research in blended learning environments were also mentioned.

Micro-credentials in Higher Education - MCE Project, the Status Quo

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Micro-credentials are a “hot topic” worldwide. One of the most important contributions in the European Education Area dealing with the topic currently is the MCE project on “Modularization of Continuing Education and professionalization by Micro-credentials”. In line with the EU council recommendations on lifelong learning and employability, 10 European universities under the leadership of EADTU are working on operationalizing, institutional implementation and testing of micro-credentials. MCE will leverage and align partner universities to make short learning programs a success especially in regard to flexibility and stackability, and in line with national and EU policies and frameworks. Our poster will give an overview over the various work packages, and results obtained up to now, giving insights on the learners’ perspective on Micro-credentials, the EU institutional provision and strategies in relation to modular education, as well as on the formats that will be experimented in the frame of MCE. The topic of the poster is aligned with the conference’s sub-themes 2 and 3.

A Road Map to Remote Intelligent Access to Labs in Higher Education

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Laboratory experimentation is one of key elements of higher scientific education. Remote Intelligent Access to Labs in Higher Education (RIALHE) is an ambitious project involving three European partners aimed at promoting online access to state-of-the-art laboratory simulations and their environments. The project aims to enable live observations and facilitate collaborative interactions between students and lab scientists. In this poster, we will provide a concise overview of the project’s objectives and expected outcomes as well as explain the different phases that promote the project’s goals and its innovation philosophy. Our project’s idea is timely as it 1) creates opportunities for dialogue between European laboratories of excellence, university lecturers and their students; 2) identifies new ways to introduce state-of-the-art protocols in the preparation of future lab experts; and 3) encourages the sharing of laboratory experiments among countries for the benefit of students learning lab skills, new graduates, and those undergoing refresher courses to maintain a high level of skills.

Three critical issues for use of microcredentials in education and training of health and social care professionals: A scoping review

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Higher education institutions are committed to creating more diverse and flexible educational opportunities for a larger group of learners including practicing health professionals. Global refugee crisis calls for learning opportunities to improve competence of health professionals in refugee health. As part of the Erasmus+ Persons with Refugee Experience Education Project – Interprofessional (PREP IP), an online course on refugee health is developed. In order to consider if microcredentialing is an option for integrating the PREP IP online course into the offerings by partner institutions, the project team undertook a scoping review on microcredentials and their use in higher education with the primary focus on health and social care professions both in entry-level education and continuing professional development. Sixteen articles and one grey literature report were included. Three themes were developed. ·Micro-credentials have the potential to transform education for health and social care professionals. ·Quality and value of microcredentials should be ensured. ·Potential barriers and challenges to introducing microcredentials are identified. This scoping review has identified the lack of published research on the design, development and evaluation of microcredentials for health and social care professionals. However, the available literature offers useful insights to inform the development of microcredential courses. Global refugee crisis calls for learning opportunities to improve competence of health professionals in refugee health. As part of the Erasmus+ Persons with Refugee Experience Education Project – Interprofessional (PREP IP), an online course on refugee health is developed. In order to consider if microcredentialing is an option for integrating the PREP IP online course into the offerings by partner institutions, the project team undertook a scoping review on microcredentials and their use in higher education with the primary focus on health and social care professions both in entry-level education and continuing professional development. Sixteen articles and one grey literature report were included. Three themes were developed. This scoping review has identified the lack of published research on the design, development and evaluation of microcredentials for health and social care professionals. However, the available literature offers useful insights to inform the development of microcredential courses.

Universal Design for Learning in Teaching Units

Yansin Barboza Robles · ybarboza@uned.ac.cr · UNED, Costa Rica · Academic producer

A teaching unit is a book created at State Distance University (UNED), Costa Rica, by the Program for the Production of Written Teaching Material (PROMADE), specifically for one of the subjects or courses offered. Its target audience is distance learning students, and therefore its main characteristic is to enable independent learning for a wide range of people. With this purpose in mind, teaching units are created with a coherent structure that includes the implementation of Universal Design for Learning (UDL) principles. The poster will specify how UDL is applied in the teaching units.

BYU-Pathway Worldwide: How to Offer Education to a Global Audience

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BYU-Pathway Worldwide (BYU-PW) is dedicated to improving lives through access to spiritually based, online affordable higher education. BYU-PW strives to empower students who feel they have no opportunities for achievement in higher education. As of 2022, BYU-PW serves more than 61,000 students annually from more than 180 countries. In order to understand more comprehensively the needs and challenges faced by students from diverse cultures and socioeconomic backgrounds, BYU-PW has undertaken extensive research through gathering data and conducting country visits. This research has in turn informed organizational initiatives that promote global inclusion and increase student success. These organizational initiatives include, pre-matriculation courses, a certificate first structure, stackable certificates, variable cost tuition, open educational resources (OER), offline-accessible courses, language leveling, and translating courses into other languages. These measures aim to create equal opportunities, promote fairness through education, and offer support to individuals who encounter disadvantages.

Quality and gender equity management: binomial for the development of society The case of the national accreditation agency in Costa Rica

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The National Accreditation System for Higher Education (SINAES) is the national accreditation agency of Costa Rica. It is the institution to which the State has granted the authority to publicly certify the quality of institutions, programs, and courses in higher education that voluntarily undergo its rigorous evaluation process and demonstrate compliance with established quality criteria. Quality is assessed through a model that proposes evaluation for accreditation purposes. In this process of continuous improvement, the agency also contributes to achieving ongoing enhancement. Given what is established by the SINAES law, the public policy outlined in Costa Rica to bridge the gender gap, and Sustainable Development Goals 4 and 5, a course called ""Gender Equality: Concepts, Basic Principles, and Tools for Identifying Gender Gaps in the Context of Higher Education"" was created from 2022 onwards. The premise is that gender equity is one of the elements necessary for quality education, as it is a combination that fosters the development of society. The course seeks to address the following questions: How can an accreditation agency contribute to the Sustainable Development Goals? What practices enable coherence between Sustainable Development Goals 4 and 5? Is it possible? I will like to present what SINAES' mission is. Also describe the path that the National Accreditation Agency for Higher Education (SINAES) of Costa Rica has taken to contribute to the development of public

policies on gender equity and as a contribution to Sustainable Development Goals (SDGs) 4 and 5, namely, the creation of this course. We'll present the results of participation up to date. Finally we'll present the conclusions and recommendations.

Remote Laboratories: Educational resources for experimentation in distance education

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A Remote Laboratory (RL) is a set of software and hardware technologies that are accessed through the internet to carry out experimental activities in digital environments. In 2020 there was a significant number of uses, mainly driven by the pandemic and by the fact that some institutions saw the opportunity to use these laboratories to adapt their experimental activities to the conditions imposed at that time. It can be observed that the laboratories have had an increase in the number of uses as the years have passed, in the case of 2023 in the UNED a low number of uses is observed, however, this phenomenon is due to the fact that the data for this year were collected (for the purposes of this study) only in the first nine months of the year, but according to the increasing trend of the previous three years it is projected that the uses will be higher than those reported in 2022.

The Virtual Campus of Public Health of the Pan American Health Organization as a strategy for technical cooperation

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The Virtual Campus for Public Health (VCPH) is the educational platform of the Pan American Health Organization, conceived as a tool for the technical cooperation. Objective: to characterize the

educational programs of the VCPH and its processes of technological updating and accessibility in relation to the lines of cooperation of PAHO. Methodology: Quantitative and qualitative methodologies were applied for the systematization of information from the VCPH databases on the Moodle platform, from 2007 to December 2021. Results: 210 tutored courses and 226 self-learning courses were developed between 2007-2021, with a heterogeneous approach to the different cooperation themes. The self-learning courses during the pandemic exceeded the total accumulated in previous years. The main challenges identified are improving the accessibility and quality of educational proposals, strengthening the approach of the areas for technical cooperation and improving the evaluation of courses and knowledge about users.

Nurturing Voices for Values: Teaching and Learning Ethics Cross-Culturally for Societal Transformation

Amele Ekue · ekue@globethics.net · Globethics · Dr, Professor

The poster will provide information on the development of an intentional pedagogical framework, in which not only the acquisition of knowledge on ethics is located (what is right or wrong?), but more importantly an ethical praxis sensitive of values-related dilemmas and cultural normative diversity is nurtured (how do we handle normative dilemmas?). The aim is to analyse salient didactical choices made in view of creating a learning context for societal transformation.



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AUTHOR/CO-AUTHOR

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Catalyst IT is a global, multi-award winning Moodle Premium Partner. With over 350 specialists across Australia, New Zealand, Europe, UK and Canada, we specialise in enterprise level Open Source software solutions and provide 24/7 technical support to our clients. Catalyst are trusted by major universities, colleges and other education providers, as well as Government and major organisations in the Health, Not-for-profit and Commercial sectors.

In collaboration with



The Center for Scientific, Social and Technological Research of Peru (CICSTEP), a commercial partner of Peru and Latin America, is an educational institution based in the city of Lima, whose purpose is to

develop research through inclusive, supportive and participatory projects, where technology is established as the transforming axis of sustainable development.



UDUAL is an organization of universities and higher education institutions in the region, established in 1949 and aimed at establishing firm ties of cooperation, within a framework of respect and plurality, with a clear commitment to social linkage of higher education.

Throughout its history, it has brought together the largest number of universities and higher education institutions, around common purposes and with a resolute orientation in favor of the internationalization of education, quality teaching and the promotion of research and development. Knowledge linked to the solution of social, environmental and cultural problems in the region.

Since its foundation, one of its emblematic values has been the defense of university autonomy as the essence of academic institutions, both in its internal governance and administration and in its unrestricted respect for freedom of thought, teaching, and research.

The purpose of UDUAL is to strengthen academic exchange, mobility, recognition and transfer of credits, as well as the strengthening of evaluation and quality assurance processes.

Currently, UDUAL has more than 200 affiliated universities in 22 Latin American countries. We are a non-governmental, non-profit organization, recognized by UNESCO as a regional advisory and consultation body.

In collaboration with



CALED is the Latin American and Caribbean Institute of Quality in Distance Higher Education, it was established on October 19, 2005, within the framework of the I Congress of Quality in Distance Education.

Its main mission is to contribute to the improvement of the quality of distance higher education in all the institutions of Latin America

and the Caribbean that offer this type of education, advising on the processes of distance education and specifically on the self-assessment of the programs that require it.

With the objective of promoting and strengthening the capacity of Latin American and Caribbean Universities in achieving a Quality Distance Education offer.



The Common Space for Higher Distance Education (ECOESAD) is a network of higher-level public educational institutions that collaboratively promote distance education through the development of regulatory proposals, operational and evaluation standards, as well as educational programs and resources. digital.

It began in 2007, the year in which seven Higher Education Institutions: the National Autonomous University of Mexico, the University of Guadalajara, the National Polytechnic Institute, the Metropolitan Autonomous University, the Nuevo León Autonomous University and the Veracruzana University agreed combine their efforts to promote Distance Education in Mexico. In 2008, 25 more institutions joined this agreement. During 2019, this agreement is endorsed and currently 38 public HEIs located in different states throughout Mexico are part of this network.

Mission

Promote, develop and offer relevant and quality distance education, based on collaboration and innovation, aimed at the general population and especially at groups with difficult access to education.

Goals. Promote the quality, equity, coverage, relevance and permanent development of educational programs that operate in public institutions of upper secondary and higher education in the non-school modality.

In collaboration with



With more than 40 years of tradition, the Ibero-American Association of Higher Distance Education (AIESAD) works to encourage, promote and integrate Higher Distance Education in the Ibero-American region, especially among the 14 nations that make up the association and the more than 35 higher education institutions that make it up today.

The purpose of the Association is to contribute to the academic life of directors, professors and students of AIESAD member universities, through various projects for the democratization of relevant and quality information in Higher Distance Education (EAD), as well as the exchange of cutting-edge experiences in this area of knowledge.

The AIESAD was created in 1980, during the celebration of the Ibero-American Symposium of Rectors of Open and Distance Universities, held in Madrid from October 5 to 10 of that year, there it was agreed that in order to achieve a greater boost in Higher Distance Education For the benefit of the peoples of Ibero-America, it was convenient to create a mechanism for information, coordination and cooperation that continues to this day with the work of strengthening collaboration ties to strengthen the modality in the region.



Since 2020, INILAT has been serving as a meeting and collaboration hub for networks and associations for the internationalization of higher education in Argentina (REDCIUN), Brazil (FAUBAI), Chile (LEARN CHILE), Colombia (RCI-ASCUN), Mexico (AMPEI) and Peru (REDIPERÚ), connecting nearly 600 higher education institutions in Latin America.

We share common challenges and develop initiatives with a regional perspective and global projection.

INILAT has become a benchmark of cooperation for internationalization in Latin America, contributing to the positioning of the region as a great quality environment for higher education.

In collaboration with



The International Research Network on Distance, Online and Open Education (REDIC) is promoted by the Research Program on Fundamentals of Distance Education (PROIFED) of the Distance State University of Costa Rica (UNED), universities, research centers, national researchers and researchers around the world.



This is a network of academic and scientific collaboration made up of researchers from all over the world in order to generate linkages, define common areas of research, collaborative scientific publication and proposal of a portfolio of projects for international financing.

This network has a horizontal collaboration structure made up of individual, institutional nodes and other networks of researchers, managers and academics with experience in distance, online or open education. It is also made up of expert international advisers, professors, students and enthusiasts of distance and online education.

The network encourages the exchange of information among its members, the development of common interests, integrating research lines and areas, and the promotion of joint research projects, with international quality standards.

In collaboration with



The Center for Open Education Research, established in 2018 at the University of Oldenburg, in Germany, builds upon research projects and activities conducted since 2010 by the research group headed by Prof. Dr. Olaf Zawacki-Richter in the areas of open education, distance education, educational technology, lifelong learning, and international education.

COER is a global community of 20 professors, five postdoctoral researchers, and seven doctoral students from 12 countries. It brings together leading scholars and researchers from around the world to increase collaborative and interdisciplinary research activities and further scholarship in educational research.

Emphasis is placed on international research projects in the context of open education on the level of global educational systems (macro-level research), on the level of educational institutions (meso-level research), and on aspects related to individual learning and teaching (micro-level research).



The Inter-American Development Bank is devoted to improving lives. Established in 1959, the IDB is a leading source of long-term financing for economic, social and institutional development in Latin America and the Caribbean.

The IDB also conducts cutting-edge research and provides policy advice, technical assistance and training to public- and private-sector clients throughout the region.

In collaboration with



The Central American University Confederation, created in 1947, is the integration organization of the Central American public university system that promotes the development of universities through cooperation and joint work with society and the State. Its governing body is the Central American Higher University Council (CSUCA) made up of the 24 public universities of the 8 countries of the Central American Integration System.

For a comprehensive approach to regional problems and their solution proposals, it acts within a framework of commitment, solidarity, tolerance, transparency and equity. It promotes the development of scientific, technological and humanistic knowledge, promoting the training of professionals with criteria and capable of making decisions and influencing the sustainable development of the region. Since its creation, the CSUCA has held nine regional university congresses in which it has proposed five plans for the integration of Central American and Caribbean higher education (PIRESC). The development of its work plans is carried out through eight systems, made up of officials from the vice-rectories of the member universities.



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MindShare Learning, Canada's leader in driving innovation in education, specializes in bridging the gap between best-in-class EdTech solution providers and K20 education. Through their deep knowledge, with over 25 years of expertise in digital

media & marketing strategy, they facilitate the delivery of transformational learning experiences to help all students thrive. Their vision is to build long-term, mutually beneficial trusting partnerships with their clients and the border education community, through open communication and clearly defined goals and objectives. They are results-drive, highly focused and disciplined, applying sound strategy to business innovation.

In collaboration with



The Brazilian Association of Distance Education - ABED, a non-profit scientific association with no ideological ties of any kind. It was created for the development of open, flexible and distance education.

ABED aims to:

- stimulate the practice and development of projects in distance education in all its forms;
- encourage the practice of the highest quality of services for students, teachers, institutions and companies that use distance education;
- support the country's "knowledge industry" by seeking to reduce inequalities caused by isolation and distance from large urban centres;
- promote the use of different "media" in the realization of distance education;
- foster the spirit of openness, creativity, innovation, credibility and experimentation in the practice of distance education



UNIR Mexico is a 100% online university with an innovative pedagogical model that is highly successful throughout the world. Our methodology breaks all the barriers imposed by space and time so that you can train with a quality education anywhere.

We have live or deferred online classes so that you can watch them as many times as you want and prepare yourself in an equivalent way, and in many cases superior, to what you would do in a face-to-face university. A personal tutor will guide you on your path at UNIR Mexico and will help you from the first day, so that you pass all the subjects successfully. In addition, you will have training resources at your fingertips 24 hours a day, 7 days a week through the Virtual Campus, where you will find everything you need. UNIR Mexico titles are official, RVOE valid and recognized by the SEP. They are backed by the European quality of the PROEDUCA Group.

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**UNIVERSITY
OF LONDON**
CENTRE FOR ONLINE &
DISTANCE EDUCATION

The Centre for Online and Distance Education (**CODE**) is a University of London initiative to support the development of expertise and innovation in the field of online and distance education through research, training, capacity building, and strategy and policy development.

The Centre provides recognised expertise of the highest standards. CODE supports a community of practice, promotes collaboration and knowledge-sharing and provides a focus for the development of high-quality learning, teaching and assessment. CODE's work is informed by and leads developments in research, pedagogy, practice and innovation



UABIERTA is a project consisting of the development of the integrated system of open educational services of university extension, developed by the Distance State University of Costa Rica (UNED) to face the consequences of the COVID-19 pandemic, digital inclusion and learning by virtual means that

are part of the instruments for the adequate improvement and permanent formation of all the inhabitants, particularly those sectors whose conditions limit their dignified, respectful and continuous incorporation into economic, social, cultural, political and environmental life. This system allows the development of knowledge and skills as tools for employability, the promotion of productive capacities, the strengthening of cultural identity, territorial roots, territorial governance, community environmental sustainability, as well as inclusive educational communities. In addition, it is a system aimed at the general population, with priority given to those sectors that are in conditions of vulnerability, unemployment, underemployment and/or informal economy, as well as groups that focus on strengthening entrepreneurial capacities for the generation of options. in order to contribute to the work of the UNED in the integral development of the territories.

In collaboration with



We are a National Government entity linked to the Ministry of Education specialized in supporting Higher Education Institutions so that they are more competent and competitive in order to consolidate an education with quality, relevance and coverage with equity.

Additionally, FODESEP is a mixed, solidarity, non-profit economy entity that is part of the Executive Branch of the Public Power; of the National order, decentralized by services, with legal status, administrative autonomy and its own assets.



The National Institute for Digital Learning (**NIDL**) aims to be a world leader at the forefront and leading edge of new Blended, On-Line and Digital (BOLD) models of education.

NIDL has an ambitious mission of transforming lives and societies by exploring new BOLD and innovative approaches to teaching, learning and assessment for better and more imaginative futures - for all.

EDUCAUSE

CEDUCAUSE is a nonprofit association whose mission is to advance higher education through the use of information technology. EDUCAUSE equips their community with the knowledge, resources,

and community-building opportunities needed to help shape strategic IT decisions at every level in higher education. EDUCAUSE welcomes diversity—in viewpoints and experience—and believes in inspiring the transformation of higher education in service to a greater good.

In collaboration with



The African Council for Distance Education (ACDE) is a Continental Educational Organization comprising of African Universities and other Higher Educational Institutions, which are committed to promoting quality education and training through Open and Distance Learning. It is a unifying body of distance education providers and practitioners in Africa. ACDE was formally launched in January 2004 at Egerton University, Kenya.

Its establishment was underpinned by the desire of African Vice-Chancellors to establish a unifying body to facilitate and promote the pooling of resources, shaping and influencing continental policies on distance education, and collectively sourcing for and tapping into resources available from the national, regional and the international community for the advancement of education and training through Open and Distance Learning. The ACDE continues to play its role in fostering collaboration, research and quality of ODeL institutions through its four technical committees namely: The Quality Assurance and Accreditation Agency, hosted by the National Open University of Nigeria. The Agency developed a Quality Assurance Toolkit, which seeks to ensure quality in ODeL.

The president will share more during the presentations. Technical Committee on Collaboration and Research Committee, hosted by the Open University of Tanzania. Advocacy, Knowledge Generation and Dissemination Committee, hosted by the University of South Africa. Information Communication Technology Committee, hosted by the Open University of Sudan. ACDE is led by a Board comprising of five members: President, 1st and 2nd Vice President, Secretary General and the Treasurer as well as regional representatives. Currently, its secretariat is being hosted by Kenyatta University, Nairobi, Kenya. ACDE continues to advocate for quality in Open and Distance Learning across Africa. We invite even the international community to support this core mandate as we make education more reachable.

In collaboration with



INCA emerged as a project financed by the European Commission within the ALFA III Program, with a duration of three years (2008-2011), initially involving twelve Central American and two European higher education institutions.

After finalizing the financing and as one of the results of the Project, the INCA Network was formed in 2011. Currently, it is made up of 20 universities that constitute a learning opportunity for best practices and transfer in the field of internationalization of higher education, as well as the strengthening of the internationalization management capacities of HEIs, participants and new members of the region.

The Network's main axes of work are to raise the interest in internationalization in Teaching, Research and Social Projection activities of Higher Education Institutions.



We are the Organization of Ibero-American States for Education, Science and Culture (OEI), the largest multilateral cooperation organization between Spanish- and Portuguese-speaking Ibero-American countries, with more than 3,000 people working throughout Ibero-America, physically distributed in 20 countries of the region.

We conceive of education, science and culture as tools for human development and generators of opportunities to build a better future for all.

We work directly with the governments of our 23 member countries, responding to their priorities and strengthening their public policies through programs and projects designed and implemented by highly qualified professionals committed to creating value for the whole of society.

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The Argentine Distance Education University Network (RUEDA) was formed on August 10, 1990. The first call took place in the city of Buenos Aires, with the participation of representatives of the National Universities of Salta, the South, Rosario, the Coast, San Juan, La Plata, Buenos Aires, Patagonia San Juan Bosco and the National Technology.

Among the main objectives agreed upon at the founding meeting, the following should be mentioned: "to promote and develop the appropriate use of distance education resources to overcome specific educational problems; promote research, experimentation and the development of methods and procedures in distance education; promote the formation, improvement and qualification of the members of RUEDA; organize, convene and participate in national, regional and international meetings in the area; establish strategies to approach sources of financing; promote the fluid exchange of information and educational programs produced inside and outside of RUEDA; advise on educational, political, economic, legislative and technical aspects relevant to the Network; and propose policies related to the area of the RUEDA".

In May 2000, during the meeting held at the University of Cuyo, the founding objectives and the role of RUEDA were discussed again in order to critically analyze its validity, its relevance and to formulate other pertinent intentions for this new stage of RUEDA. . In this way, RUEDA assumes old and new purposes of action as a cooperation network committed to the development of distance education in Universities.

AVENU

AVENU Learning is a single education partner for global growth and expanding access. AVENU connects universities with learners worldwide, delivering on its mission to expand access to

high-quality, affordable online education, globalized and in the language of the learner. AVENU supports global learning communities across a portfolio of education partner program portfolios including certificates, undergraduate and graduate degrees.

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Colypro

Today, with more than 70 years of foundation and more than 75,000 members, Colypro is the largest professional association in Costa Rica and one of the largest professional groups in the Central American region.

The College of Graduates and Professors in Letters, Philosophy, Sciences and Arts was created as a

professional college in charge of promoting quality education for the benefit of Costa Rican society, by controlling the legal, ethical and competent exercise of the teaching profession.

Colypro was created in the 1950s, when extremely relevant historical events were happening in our country. By then, the University of Costa Rica began its work in the country with the opening of its first schools, among them that of Letters and Philosophy, its first dean being Mr. Jorge Volio Jiménez, whose name represents the annual contest that Colypro holds to award works by members in different areas.

As time went by, the first professionals graduated from this educational institution, among them Victoria Garrón Orozco (first president of the Board of Directors) and Tirza Bustamante de Rivera, who fought tirelessly so that education professionals had their own school. professional. It was not until 1950 when Law 1231 was created, which gave rise to the creation of the College of Graduates and Professors of Letters and Philosophy, which later incorporated other areas related to education.

In 1972, Organic Law 4770 of the College of Graduates and Professors in Letters, Philosophy, Sciences and Arts was created, a regulation that governs us today and which evolves with the new needs of the college and the growth of the corporation. Today we have been the largest professional association in the country for more than 7 decades, which day after day is concerned with defending the professional rights of its members, as well as promoting their well-being and economic improvement.



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