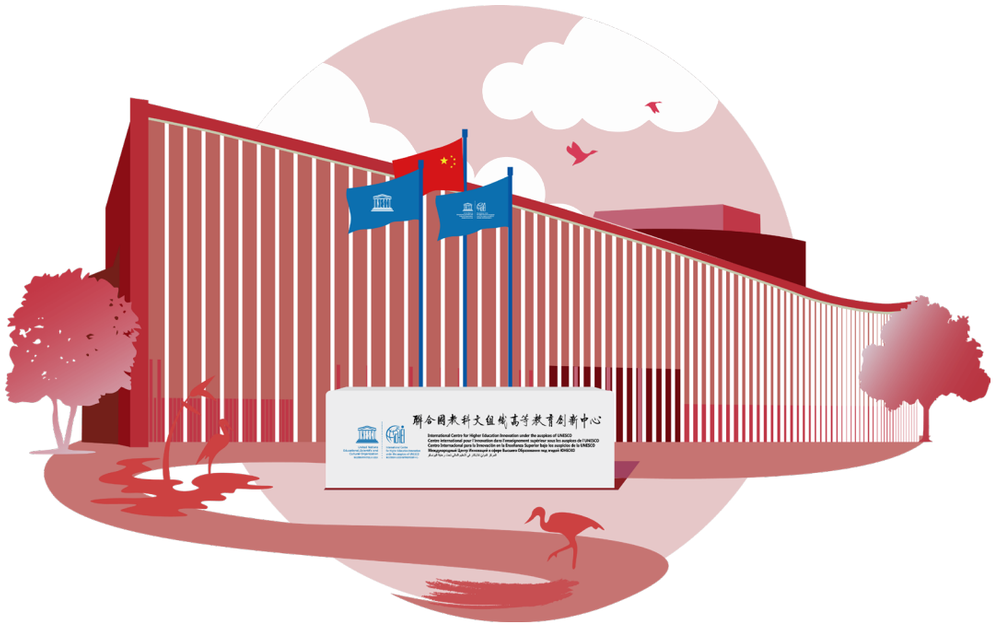

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CLOUD

Connecting Leaders Online for University Digital Transformation

Issue 08
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Reviewing the Digital Transformation Process

Looking Ahead to the Integration of Artificial Intelligence into Higher Education

CLOUD - Connecting Leaders Online for University Digital Transformation

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CLOUD is the quarterly publication launched by the International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI) in 2021. The name ***CLOUD*** symbolises a global network for knowledge sharing driven by Information and Communications Technology (ICT). ***CLOUD*** aims to build an exchange platform that connects professionals in the realm of global higher education by sharing knowledge, project updates, data and best practices related to the digital transformation of global higher education.

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CONTENT

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Dear readers,

Welcome to this issue of the ***CLOUD***.

With globalization and digitization advancing rapidly in today's world, innovation and transformation in higher education have drawn attention from most countries and regions worldwide. The International Centre for Higher Education Innovation under the auspices of UNESCO (hereinafter UNESCO-ICHEI) is committed to promoting digital tranformation in higher education globally, and is woking together with its global partners to address the challenges and opportunities in higher education through its four key functions: knowledge production, competency building, technical support and information sharing.

Artificial intelligence (AI) and generative AI (GenAI) are deeply affecting the landscape of higher education today. In September 2023, UNESCO published its first global guideline, ***Guidance for Generative AI in Education and Research***, calling for an up-to-date global consensus encouraging countries to make efforts in policy development and competency cultivation, so that AI fully embodies humanism with inclusiveness and equity in the future education. Since 2024, an increasing number of higher education institutions (HEIs) are actively launching initiatives to support the effective use and governance of emerging technologies in higher education. At the same time, UNESCO-ICHEI is dedicated to tackling challenges of our generation with partners to facilitate equitable and accessible quality high quality through digital transformation. Among UNESCO-ICHEI's flagship projects, the International Institute of Online Education (IIOE) is leading the creation of an ecosystem for digital competency building and infrastructure upgrades for HEIs and the workforces, through which it is consistently working with global partners to explore potential opportunities and challenges, discuss strategies on governance and application of new technologies, and cooperate in the development of future-oriented competencies in higher education.

As an important knowledge communication medium connecting global partners, ***CLOUD*** serves not only as a bridge for the exchange of ideas, but also a platform for showcasing advanced achivements and practices in higher education. Starting from 2024, the ***CLOUD*** has been renewed to include the best practice cases, research and insights from higher education experts and institutions from inside and outside of the IIOE network, which is divided in three columns: "Forsight and Landscape", "Deep Dive", and "Digits and Tales". This new issue is based on the ***White Paper on Higher Education in the Era of Artificial Intelligence*** published by UNESCO-ICHEI in 2023 as well as the award cases of UNESCO-ICHEI's first Higher Education Digitalization Pioneer Case Award, exhibiting the excellent practices in **China, Pakistan, Egypt, Senegal, Uzbekistan, Ethiopia, Mexico, Indonesia, Zambia, Malaysia, Philippines, Thailand and the United States, Ethiopia, Mexico, Indonesia, Zambia, the United Arab Emirates, Mongolia, Nigeria and Morocco.** In the section "Digits and Tales", we will also share the speeches of global education leaders at the IIOE Global Partners Summit "Transforming Higher Education in the Age of AI" in 2023. Through ***CLOUD***, we hope to present the latest research outcomes, policy recommendations, and best practices with our colleagues in the global education community, which can contribute to further international cooperation and exchange.

On behalf of UNESCO-ICHEI, I would like to express my sincere gratitude to friends from every corner of the world who have been supporting and following our work. Thank you for your kind support of ***CLOUD***, and we look forward to your participation. Your wisdom will allow us to consistently work hand in hand in higher education development and innovation. In the future, guided by the principle of "extensive consultation, joint contribution, shared benefits", we will continue to make efforts in deepening cooperation with HEIs, enterprises and international organisations, encouraging more outstanding projects, and jointly building a better and smarter future for higher education.

Thank you once again for your support, and I hope you find insights and inspiration through this issue of ***CLOUD.***

Professor JIN Li

Director of UNESCO-ICHEI,

Vice President of Southern University of Science and Technology

01

Foresight and Landscape

- About the *White Paper on Higher Education in the Era of Artificial Intelligence*
- Invasive Species in the Educational Ecosystem: Approaches to Dealing with GenAI in the Higher Education Sector
- Supporting the University's AI Initiatives through a Student-as-Partner Approach

About the *White Paper on Higher Education in the Era of Artificial Intelligence*

Based on extensive consultation from experts and enterprise partners, the *White Paper on Higher Education in the Era of Artificial Intelligence* (hereinafter referred to as the "White Paper") written by the International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI) endeavours to explore the current approaches and future directions for the effective use of Artificial Intelligence (AI) technologies in teaching and learning in higher education, and advocates for the multilateral collaboration of higher education stakeholders, to advance the good use of technologies and related policies. This White Paper is dedicated to providing institutions and educators in the International Institute of Online Education (IIOE) ecosystem with a more comprehensive overview of issues related to AI and higher education, as well as the vision and outlook of UNESCO-ICHEI and IIOE. It also presents concrete solutions and possible paths of action in order to support stakeholders in the rational use of technology to achieve high-quality and equitable higher education.

On 8 December 2023, after the release of the *White Paper on Higher Education in the Era of Artificial Intelligence (Consultation Draft)* during the 2023 IIOE Global Partners Summit, higher education experts and partner institutions of the IIOE network were widely consulted, with the goal of integrating industry and academia, the White Paper aims to strengthen policy dialogue, promote more Higher Education Institutions (HEIs) in developing countries to reach a consensus on AI and higher education, and encourage multiple stakeholders to explore the cooperation mechanism and the new ecosystem of higher education. From 6 to 7 January 2024, the *White Paper on Higher Education in the Era of Artificial Intelligence* was officially released during the first "Global Frontier Science 50 Think Tank Forum", a global network of top scientists, scholars, and industry professionals from around the world.

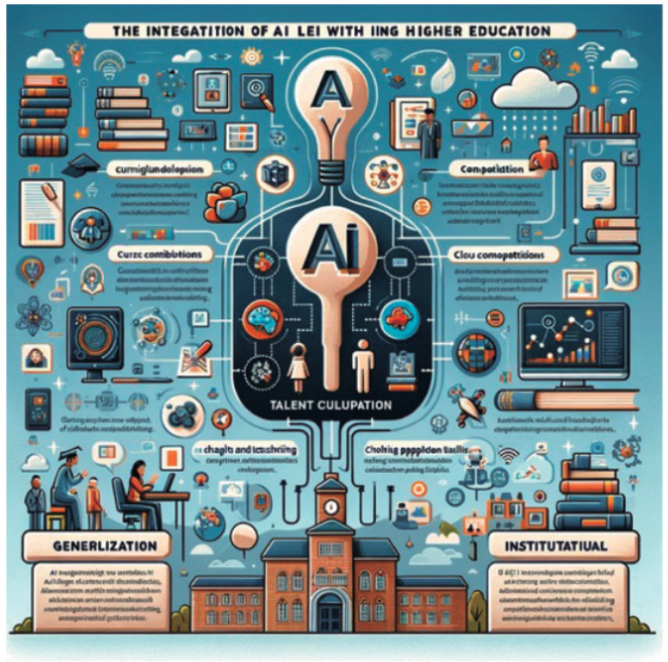
Prof. Lim Cher Ping, Chief Expert of IIOE, UNESCO-ICHEI and Chair Professor of Learning Technologies and Innovation at the Education University of Hong Kong, China (EdUHK), gave an overall introduction to the White Paper at the 2023 IIOE Global Partners Summit

Prof. Li Ming, Secretary-General of the IIOE Secretariat, Founding Director of UNESCO-ICHEI, released the White Paper during the first "Global Frontier Science 50 Think Tank Forum"

The White Paper adopts multi-stakeholder perspectives and explores the construction of higher education cooperation mechanisms in the AI era from the perspectives of HEIs, EdTech enterprises, governments, international organisations, etc. It provides multiple levels of references for policy-making on the introduction of new technologies in HEIs. Based on industrial practices and in-depth research, the White Paper discusses the role of University-Enterprise Cooperation (UEC) paths for the integration of AI and higher education. By analysing cases of higher education governance in different countries, the White Paper analyses the integration of AI and local culture, as well as the "good governance" and rational regulation of technology. In view of the enormous challenges posed by technological change and industrial revolution to higher education, the White Paper calls for a consensus on the future model of "AI + higher education" that relies on multilateral partnerships, organises higher education stakeholders to work closely together, adopts an effective governance framework, and continuously promotes innovation in policies and best practices.

In addition, the White Paper emphasises UNESCO-ICHEI's advocacy and commitment to the future integration of AI and higher education. UNESCO-ICHEI will work with global partners to stimulate the full potential of AI-

empowered teaching, innovate the higher education model, and promote the organic combination of teachers' professional competence and AI technology. UNESCO-ICHEI endeavours to deepen the strategy of capacity building for HEIs, covering policy guidance, professional training, and technical support, in order to guarantee high-quality and equitable higher education and lifelong learning opportunities. Based on this common goal, IIOE is committed to enhancing the professional competencies of teachers in applying AI, improving the AI talent cultivation mechanism, promoting pedagogical and institutional management innovations, facilitating the optimisation and upgrading of AI education products, and strengthening the global higher education governance capacity of the UNESCO system.



Introduction to Chapters

Artificial Intelligence (AI), as a technological tool that emulates human cognition and decision-making processes, stands out as the most influential and promising technology, introducing boundless and new possibilities. While envisioning the future, the education sector has maintained a cautious approach to considering and applying AI technology. At present, it remains uncertain whether institutions have adequately prepared to address the changes brought about by AI and possess a clear understanding of how to integrate AI into the education system. In addition, despite rapid developments in AI in some countries, many developing countries have yet to widely adopt AI in HEIs. In June 2023, Stefania Giannini, Assistant Director-General for Education at UNESCO, stated in *Generative AI and the Future of Education* that, "Generative AI opens new horizons and challenges for education. But we urgently need to take action to ensure that new AI technologies are integrated into education on our terms [1]." In view of this, how to effectively integrate AI into higher education has become a key issue in this era.

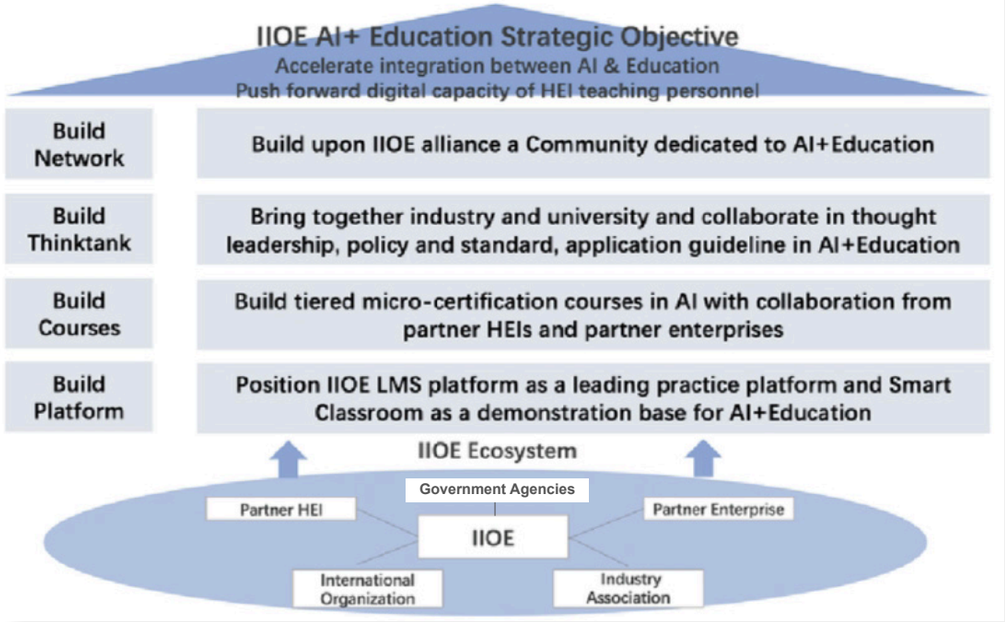
Under this context, the White Paper consists of four chapters, discussing four significant issues: opportunities, challenges, and visions for AI integration in higher education; enterprise partnership in facilitating AI integration in higher education; AI and higher education: policy and governance; and helping HEIs and teaching personnel adapt to the new demands of AI technology under the framework of IIOE.

Chapter 1 emphasises opportunities, challenges and visions for AI integration in higher education. Based on existing research, this chapter summarises the opportunities for AI integration with higher education. On the one hand, it explores how AI can empower higher education and contribute to Sustainable Development Goal 4 (SDG4) by ensuring inclusive and equitable quality education for all and promoting lifelong learning opportunities. On the other hand, this chapter also discusses the challenges of AI in higher education, including academic integrity risks, ethical concerns, and the digital divide. This chapter also presents a future vision for AI integration in higher education and attempts to outline roadmaps, calling on policymakers, HEIs, EdTech enterprises and other stakeholders to act jointly to responsibly use AI technologies.

Chapter 2 focuses on the integration of industrial AI advantages with higher education. It is significant for institutions to achieve their future vision and seize development opportunities through the enterprise's scale and first-mover advantages. Therefore, based on the diverse partnership characteristics of IIOE and its own vision, it is strategically necessary to understand the new development of enterprises and contemplate how IIOE can leverage the results of university-enterprise cooperation to drive innovation in higher education.

Chapter 3 focuses on AI governance and higher education and delves into the leading role of administrative departments of international organisations and governments, and HEIs in regulation and governance in AI, exploring their political practices in promoting AI integration in higher education and identifying the current gaps in education ministries and HEIs in AI governance policies. It attempts to compare and summarise the principles supporting the effective introduction, management and governance of AI technology.

Chapter 4 explores the vision and plan of how IIOE will promote the integration of the AI technology industry with instruction and HEIs, leveraging the opportunities presented by emerging technologies to continuously respond to UNESCO's unified framework and serve the overall objectives of UNESCO-ICHEI. IIOE is committed to supporting the digital empowerment of partner HEIs in developing countries through a series of measures, such as public-private partnerships, national centre mechanisms, open digital learning platforms and smart classrooms. In the era of AI, IIOE will also undertake a new mission and actively advocate the organic integration of AI and higher education.



Reference:

[1] UNESCO. (2023). Generative Artificial Intelligence in education: What are the opportunities and challenges? Paris: UNESCO.

Invasive Species in the Educational Ecosystem: **Approaches to Dealing with GenAI in the Higher Education Sector**

About the author

Charlie Reis is an Associate Professor and Director of the Educational Development Unit at Xi'an Jiaotong-Liverpool University (XJTLU), programme director of XJTLU's Postgraduate Certificate in Teaching and Learning in Higher Education, and founder of the China-based Association for Partnership in Educational Development (CAPED). He is also the lead for XJTLU's Artificial Intelligence Working Group. His primary area of research is the incorporation of classical Chinese knowledge into contemporary learning and teaching. Other areas of focus are transnational education, curriculum design, expertise and learning and teaching, motivation and engagement, online and hybrid learning, academic identity, and leadership.

Generative Artificial Intelligence (GenAI) has upset the ecosystem of higher education. The sector grapples with how to retain its relevance and value in the era of Artificial Intelligence (AI). The critical question that follows is how we can create indispensable learning experiences within the AI context and subsequently assess learning meaningfully and efficiently. In February 2023, the Educational Development Unit (EDU) at Xi'an Jiaotong-Liverpool University (XJTLU) was asked to form and lead an AI Working Group (AI WG) in order to get ahead of the Dean's voices on our social media calling for a ban on all GenAI and for assessments to regress to SAT exams and Viva-style student presentations. Across the sector, we know we must pivot, but this should not mean running away. In response, EDU formed a flattened AI working group with four main areas of focus:

- Policy advice for the University;
- Advice and support for students;
- Advice and support for staff in dealing with the challenges presented by GenAI;
- Advice and support for staff in maximising the opportunities presented by GenAI.

Key Stakeholders

Key stakeholders in the process were students, instructors, senior management, and industry. In order to best meet students' needs, as it becomes ever more apparent that AI will permeate all aspects of their digital lives for the rest of their lives, we adopted a Students-as-Partners (SaP) approach to the inclusion of students as active partners and co-creators in education, surveying their knowledge and needs, and then involving them in the creation of tools and guidance to meet those needs. Our student partners won a Staff and Educational Development Association (SEDA) Student Partnership Impact Award for their work.

Instructors were both surveyed and included in a flattened leadership approach to the AI WG, which comprised largely of teaching staff. The AI WG was designed to be inclusive and create outputs to help the University on the following topics and teams:

- Staff guidance for AI policy insofar as it aligned with University policy, including templates of module (course) policy to be included in handbooks for the policy team;
- Guidance for assessment in the face of AI, accounting for curricular shifts due to venerable assessments and guidance for Exams Officers and staff for the assessment team;
- Guidance for how to incorporate AI into learning, teaching and assessment for the AI opportunities team;
- Support and guidance for students for the student team.

> "We adopted a Students-as-Partners (SaP) approach to the inclusion of students as active partners and co-creators in education."

Policy & Guidance

Impacts of the AI WG include sensible policy and sample language for revised academic integrity statements that are flexible enough to align with existing policy on integrity while allowing staff to incorporate GenAI into learning, teaching and assessment. Since XJTLU has created future education models as part of the university strategy, there has never been a serious consideration for a ban on GenAI in supporting learning. We have a need for this across departments in different ways, for example, by using image generators to teach design or aesthetics, code writers for computing, video support for film courses, and appropriate textual support for other courses.

We also created different interactive webpages for students and staff aimed at enhancing AI literacy and ethical practice, which also serve as resource banks for materials and policy. This is an asynchronous resource to support our ongoing suite of professional development, which offers a University and School level focused on the possibilities of using AI in higher education, including Universal Design for Learning (UDL), Equality, Diversity and Inclusion (EDI), the need for criticality to be built into learning, limitations of GenAI and alternative and authentic assessments, support for assessment transformation, such as how to shift to more project-based models constructed (with or without AIs) over a longer time-horizon, but able to be assessed efficiently at scale and possessing of value to students after marking is over. Here, core concerns were the unfeasibility and dullness of Viva-style oral exams, which are still vulnerable to memorisation of AI-generated text, and the inauthenticity of SAT exams that too often measure regurgitation of knowledge rather than skills and capacities inherent in lists of 21st Century skills. There was also support for prompt engineering for staff, considerations of using GenAI for feedback, and inherent ethical issues (bias, privacy, integrity, and the value of subject experts).

Student Partnership Impact Award

> If the challenge of COVID-19 forced the sector to adopt and improve models of online and blended learning, GenAI would force the sector to improve curriculum design for better learning.

This work is ongoing as we are now trying to figure out an appropriate, uniform response to suspected academic integrity infringements involving GenAI, which is not only difficult to prove, but complicated due to the high ratio of false positives AI detectors ascribe to second-language writers.

GenAI & Curriculum

Like so many centres for learning and teaching in the sector, we have also been tasked with introducing curriculum transformation in order to meet the challenges of a new context. This is two-fold; for one thing, traditional forms of assessment across many disciplines are vulnerable to cheating using AI and to see where AI can fit into learning activities, such as brainstorming partners, learning support, etc., while still holding students accountable for learning, rather than AI-generated results. We are also looking at how different modes of GenAI can be incorporated into learning, for example, by creating and evaluating images and videos to evidence learning. In our context in China, we are also thinking of how we can use this disruption to move teaching towards active learning models, which is a challenge because the majority of our students display more passive classroom and online behaviours when compared to international students. If the challenge of COVID-19 forced the sector to adopt and improve models of online and blended learning, GenAI would force the sector to improve curriculum design for better learning.

The need for critical thinking and knowledge seems to get lost in debates about tech and learning. Claims that the world and all knowledge is at learners' fingertips have been made about the internet, Wikipedia, mobile phones, and now GenAI, but this has not helped education facilitate the use, judgment and additions to this knowledge at scale. Students who feel the need to submit assignments without proper engagement or preparation are vulnerable to the often generic and error-ridden products of GenAI if they don't adequately grasp the field and object of study, while staff are at risk of offering generic and error-ridden GenAI feedback on student submissions. The solution to asking students to interrogate GenAI products without working through how these products are formed decreases the likelihood that students will be in a position to offer solid judgment or critical analysis of any depth. While the content of learning changes, the process itself can be seen as a kind of cognitive apprenticeship.

Obituaries for the essay, as the exemplar of what GenAI has done away with, have come plentifully since the dissemination of Large Language Models (LLMs), but the transferrable skills in being able to prepare a coherent essay have not been declared safe: clarity of expression, coherence of ideas through structure, appropriate and accurate support for claims. In short, the delivery of sound judgment that is understandable to others as the crown and hallmark of the outcomes of higher education has been lost.

In order to supplement the development of judgement in students, our current work is exploring how using AI for feedback can both contribute to a feedback-rich environment and support instructors in responding to student work. We have also applied for different grants to fund students as researchers to explore the possibilities of AI according to the discipline of a faculty advisor with three other institutions in the spirit of using disruption as an opportunity to disseminate best practices, in this case, enhancing AI literacy and adoption of already ubiquitous tools, an evidence-based approach to learning and teaching as well as appropriate disruption of the traditional student/teaching dyad and hierarchy under a SaP approach. We are also collecting and amplifying cases of best practices from XJTLU in incorporating AI into learning, teaching and assessment, which is a micro-credential for staff accredited to recognise and reward exactly this. In short, we are learning to live and thrive in a changed ecosystem with GenAI; the following sample rubric is designed to help staff create environments and events for students where learning is inescapable in the ecosystem of learning.

This is a generic rubric designed to provide some consideration of learning outcomes for student-led activities and how they might be considered across a range of marks as an example of how our beliefs about education resolve as support for staff in that ecosystem.

> The delivery of sound judgment that is understandable to others as the crown and hallmark of the outcomes of higher education has been lost.

Sample rubric for student-created and led activities, games and puzzles

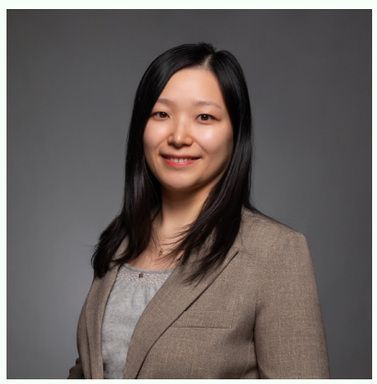
	Fail	Pass	Merit	Distinction
Planning	The plan was unrealistic, and did not consider resources, audience, or time constraints; there was no logic to the decisions	The plan was appropriate and realistic; there was consideration of resources, audience, and time constraints; there was logical decision-making	The plan was good and considered resources, audience and time constraints well; clever and/or informed decision-making	The plan was very good and considered resources, audience, and time constraints very well; very clever and/or well-informed decision making
Introduction and Explanation	Inadequate introduction and explanation of the game/activity	Adequate introduction and explanation of the game/activity that led to enough understanding to participate	Good introduction and explanation of the game/activity that led to understanding to participate and some anticipation	Excellent introduction and explanation of the game/activity that led to understanding participation and anticipation
Operations and Function	Did not function, and feedback to participants was insufficient	Functioned but not smoothly; some useful feedback to help participants	Functioned well, and operational issues were handled well for smooth function	Excellent function for expectations at this level; operational issues led to an enhancement of function
Peer Work	There was no or little design for peer interaction, no scaffolding or help for participants	There was some design for peer interaction and some scaffolding or help for participants	There was a good design for peer interaction and useful scaffolding or help for participants	There was a very good design for peer interaction and quite useful scaffolding or help for participants
Links to Learning	There were little or no links to the learning outcomes suggested in the task	There were links to the learning outcomes suggested in the task	There were strong links to the learning outcomes suggested in the task; the activity led to learning for the course	There were strong links to the learning outcomes suggested in the task; the activity led to significant learning for the course
Reflection and Debrief	There was little or no debrief; this was merely pro forma	There was a debrief that asked participants to reflect on learning from the activity	There was a debrief that helped participants reflect on learning from the activity	There was a debrief that helped participants reflect on learning from the activity in such a way that created new insights

Note: this is a "holistic" rubric, meaning that there are many elements to each stated learning outcome in the column on the left; an "analytic" rubric would separate these elements out more for markers and students. The range of marks could also be more detailed if desired.

Supporting the University's AI Initiatives through a **Student-as-Partner Approach**

Generative Artificial Intelligence (GenAI) is rapidly transforming the educational sector, reshaping teaching and assessment methods. How should universities respond to this disruption? Xi'an Jiaotong-Liverpool University (XJTLU) proposes involving students from the outset in the changes that significantly impact them. Through the Student-as-Partners (SaP) approach, students actively participate in shaping policies, collaboratively develop learning materials with educators, and reimagine their educational experiences with GenAI. This collaborative method fosters a student-centric environment, leading to a nuanced but important shift in the way education is practised.

About the author

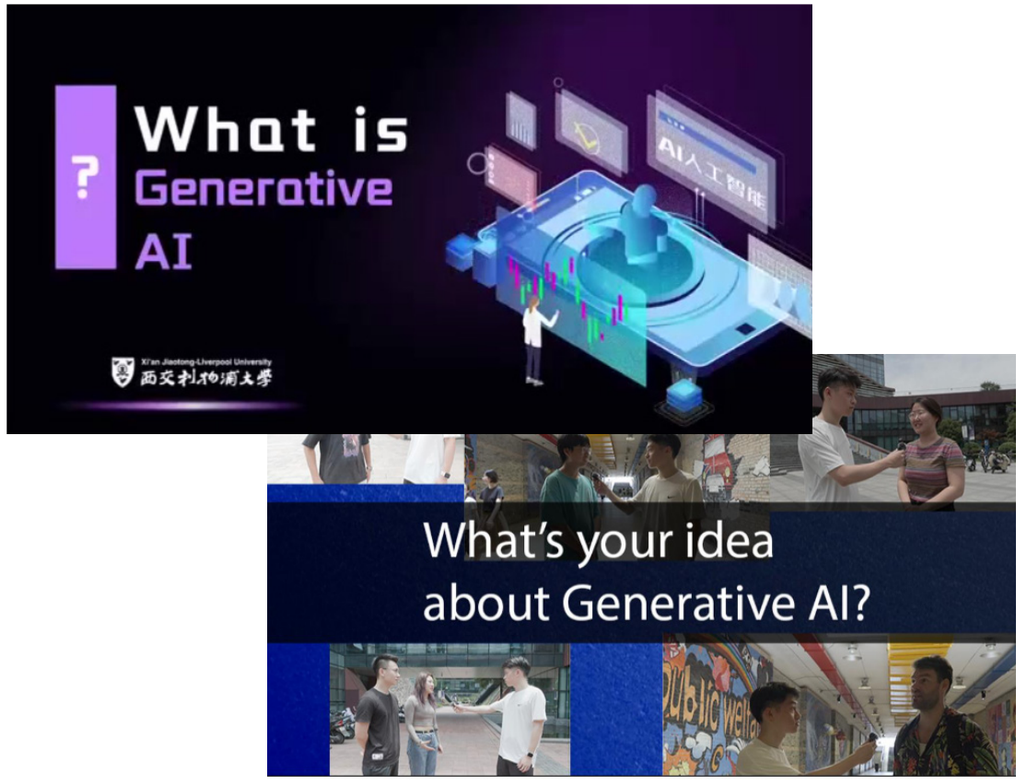


Olivia Yiqun Sun is an Assistant Professor and the team leader of the Technology-enhanced Learning Team in the Educational Development Unit at Xi'an Jiaotong-Liverpool University (XJTLU). She co-leads the AI Working Group at XJTLU with Charlie Reis. Olivia has over thirteen years of teaching and administration experience in higher education and educational institutions. She holds a Master of Science in Learning and Technology from the University of Oxford and a Master of Art in English Language Teaching (Studies and Methods) from the University of Warwick. She is currently a PhD candidate at XJTLU and the University of Liverpool.

Background and XJTLU's SaP Approach

GenAI has captured considerable attention within the university sphere, prompting institutions worldwide to develop resources, establish policies, and provide guidance on the integration of GenAI into learning and teaching environments. While most of these initiatives are traditionally top-down, XJTLU in China has taken a distinctive path. The Educational Development Unit (EDU) at the university adopted a SaP approach, a strategy that actively involves students in the heart of the AI initiative. As conceptualised by Cook-Sather et al. (2014), the SaP approach is a shift in perspective that positions students as active contributors to their educational experience [1]. This approach integrates students into the development, implementation, and evaluation of their learning experiences. It is a collaborative model that transcends traditional student roles, positioning them as co-creators and key decision-makers in the educational process. Students can significantly influence curriculum design, the selection and use of technological tools, and the overall teaching methodologies. EDU adopted this approach in order to highlight the centrality of AI in student learning and futures, as well as to ask students to engage in real-world creation that is aligned with the University Learning & Teaching Strategy.

> The SaP approach represents a collaborative model that transcends traditional student roles, positioning them as co-creators and key decision-makers in the educational process.



Screenshots of the interview video created with GenAI technologies

In XJTLU's implementation of the SaP approach, student representatives from various groups, including the MSc Digital Education programme, the Academy of Future Education Student-Staff Liasion Committee, and the Student Computing Club, were engaged in diverse projects. These initiatives encompassed policy and guidance on AI usage and limitations for students and staff, working groups to explore the incorporation of AI into learning, a Student AI survey, an AI for Learning information page tailored for students, a corresponding AI page for staff, and a creative research project to explore students' perspectives on AI and fostering the partnership between students and faculty in incorporating AI into learning and teaching. The approach not only incorporates student voices into the AI initiative but also empowers students to design AI-enhanced learning experiences, creating a learning environment that is built by students for students.

The Student AI Survey Project

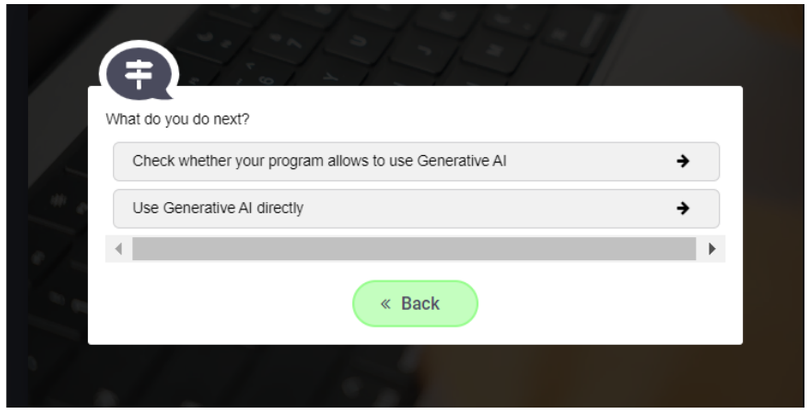
One illustration of the SaP approach is the student AI survey initiative. When discussions about GenAI began, the university embarked on a project to gather data on the staff and students' awareness, attitudes, and usage of GenAI. During the survey's development, student representatives played an active role, contributing significantly to formulating relevant questions based on their GenAI experiences. They also assisted in testing and piloting the survey before it was distributed university-wide. Their role has extended beyond merely providing data, which represents a foundational aspect of SaP approach, to actively contributing key insights into both the survey's design and its successful deployment.

The survey results indicated that while most students were aware of GenAI, only about half

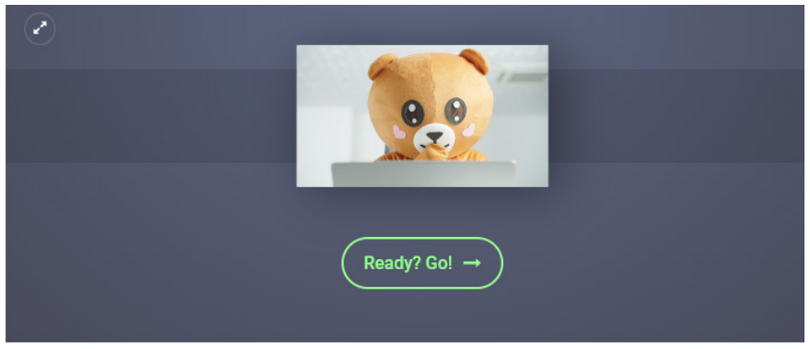
had actual experience with it. The primary uses identified were for language support, coursework aid, and general curiosity. Although the overall attitude towards GenAI was positive, there was a noticeable gap in students' comprehensive understanding of the technology. Some reported using GenAI in ways that could be considered academic misconduct, like completing coursework. These insights guided the university's leadership in formulating policies and making informed decisions about integrating GenAI into education; for instance, to tackle the issue of access, the university provided a GenAI platform powered by ChatGPT technology available to both staff and students. To address the knowledge gap about GenAI and its appropriate academic use, the university offered extensive guides, including tips on prompt engineering and policy about appropriate uses. This survey also inspired a book chapter titled "Hearing Students' Voices: Access, Attitudes and Use Preferences of Generative AI Technologies among Chinese Students", which is being published in a book titled *"ChatGPT and Global Higher Education: Using Artificial Intelligence in Teaching and Learning"* by STAR Scholar Books in 2024.

The AI for Learning Module Project

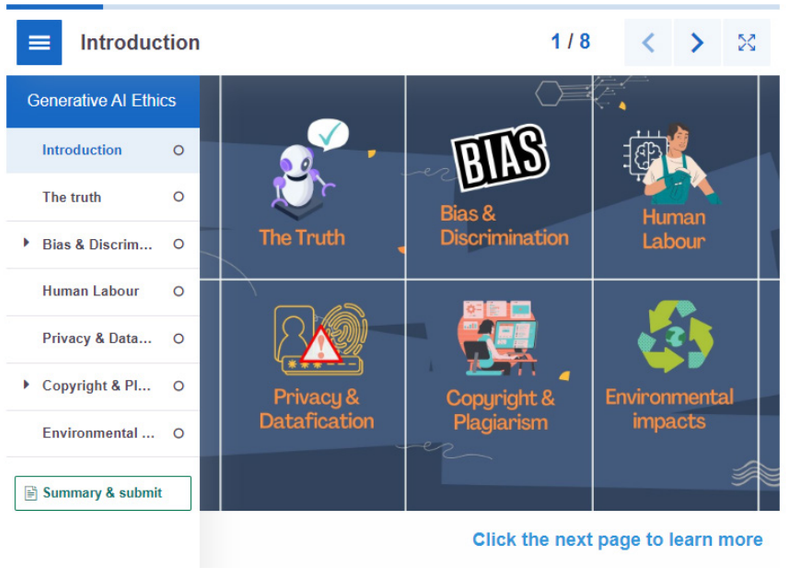
Another example of the SaP approach is the AI for Learning module project. Through the project, students collaborated with the university's instructional designers to develop high-quality, student-centric educational materials on GenAI. This collaborative effort aimed to enhance the effectiveness and relevance of learning materials for their fellow students. Instead of presenting complex GenAI-related university policies and guidelines in lengthy texts, these student collaborators successfully



Watch the branching scenario video below and help XIPU Bear decide what to do in each scenario.



Screenshots of the branching scenario activity



Screenshots of the interactive book activity of GenAI ethics

demystified and reinterpreted them, making the content more accessible and engaging for their peers using emerging technologies such as Articulate, H5P, animations, interactive videos, and branching scenarios.

The students exhibited proactivity by interviewing their peers and university staff and creating a video about it. This strategy made the content more relatable and engaging, fostering a stronger connection between the audience and the materials produced. Complementing the interview, students utilised GenAI to produce an introductory video about GenAI itself, effectively showcasing its capabilities and applications in education.

In an engaging branching scenario activity, the team incorporated the university's mascot, the XIPU bear. Rather than inundating students with lengthy policy documents, the staff and student collaborators made a joint decision to leverage the charm of the XIPU bear to engage students in various GenAI-related dilemmas. This hands-on approach not only allowed students to explore the consequences of different choices in a controlled yet realistic setting but also exemplified the project's commitment to infusing SaP principles into the style and content of the created learning experiences. As students made decisions, the scenario dynamically unfolded, providing a dynamic and immersive way to understand and engage with AI-related challenges in learning.

Moreover, ethical discussions about GenAI were creatively integrated into the curriculum through the Interactive Book feature, which is another innovation created by the SaP approach. This tool brought ethical considerations to life by embedding quizzes, videos, flashcards, and drag-and-drop activities within the content. These features, co-created by students and instructional designers, transformed the learning experience into an engaging and dynamic process. This participatory approach in the creation and utilisation of the Interactive Book exemplifies the essence of SaP – ensuring that students are actively involved in shaping their learning environment. As a result, students gained a deeper, more nuanced understanding of AI ethics through the SaP approach, moving beyond being mere consumers of information to becoming engaged, informed participants in their educational journey. This method not only made the learning experience more enjoyable but also empowered students to comprehensively understand and engage with complex concepts in a meaningful way.

> As a result, students gained a deeper, more nuanced understanding of AI ethics through the SaP approach, moving beyond being mere consumers of information to becoming engaged, informed participants in their educational journey.

Through the AI for Learning module project, the student collaborators deepened their own understanding of GenAI and developed their skills in using it to create artefacts, such as videos. These experiences, valuable additions to their portfolios, contribute significantly to their employability. Meanwhile, their peers gained access to more student-focused educational content about GenAI. The site has received an overall 7,023 visits since its launch in September 2023. The feedback to the site has been overwhelmingly positive, with a satisfaction rating of 5 out of 5.

Student Collaborator Feedback and Impact

Student collaborators' feedback on the SaP approach was generally positive. They expressed their excitement about their involvement in university-level projects and welcomed opportunities to learn

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more about GenAI and gain experiences in creating diverse learning materials.

Below are a few excerpts of student collaborators' feedback.

Student Quote from Liwei Chen

"I feel a deep sense of pride and accomplishment. I am excited to have the opportunity to contribute to the student community by introducing content about the limitations of GenAI. I hope the learning materials I created will spark the curiosity of eager students and motivate them to further delve into the complexities of AI technology".

Student Quote from Yongjia Lu

"In the AI for Learning project, I was mainly responsible for producing the course videos. This was also my first time independently handling the editing and creation of a video from scratch. With the help of the teacher Yexiang Wu, we employed GenAI to refine the video script multiple times and leveraged Canva to enhance the video's visual appeal. Additionally, we had the opportunity to conduct a random interview on campus to collect students' and faculty's opinions on GenAI. This experience allowed us to witness firsthand the influence of GenAI across different sectors and provided a platform to share these insights with the faculty and students of Xi'an Jiaotong-Liverpool University. "

> The SaP approach effectively adapts to the swift evolution of GenAI, ensuring that the learning landscape remains responsive and forward-thinking.

Student Quote from Xiaoya Ma

"Through the creation of the GenAI timeline, I mastered many novel digital tools and design concepts; the different views of teachers and students were incredibly enlightening to me; ultimately, with the careful guidance of several teachers and the active communication and collaboration among team members, we collectively accomplished the AI for Learning project."

The ingenuity and influence of this project have been acknowledged by prominent international organizations in educational development and digital education, namely the Staff and Educational Development Association (SEDA) and Jisc. In 2023, the student collaborators were honoured with the Student Partnership Impact Award from these esteemed associations, recognising their significant contributions to the field.

Final Thoughts

SaP approach can be a valuable strategy to address the challenges and opportunities presented by GenAI in higher education. Through active student participation and collaboration in GenAI-related policy development and curriculum redesign, universities can cultivate an agile, innovative, and collaborative educational environment, as exemplified at XJTLU. This approach effectively adapts to the swift evolution of GenAI, ensuring that the learning landscape remains responsive and forward-thinking.

Reference:

[1] Cook-Sather, A., Bovill, C., & Felten, P. (2014). Engaging students as partners in learning and teaching: A guide for faculty. John Wiley & Sons.

02

Deep Dive

- The Pioneer Award: Empowering Global Innovators to Drive Digital Transformation in Higher Education
- UET, Lahore: A Case of Technology-Training Convergence in AR/VR and AI Era in Pakistan
- Ain Shams University: Empowering Higher Education Institutions For Digital Teaching and Learning in Egypt
- UN-CHK: The Role of Open Digital Spaces in Distance Education in Senegal and Sub-Saharan Africa
- TUIT: Empowering Qualified Information and Library Specialists through the Competency-based Approach and the Case-study Method
- Addis Ababa University: Digital Classroom Teaching Implementation in Ethiopia
- Tecnológico de Monterrey: Generating Learning Opportunities in Logistics through GOAL Project
- Institut Teknologi Sepuluh Nopember: Intelligent Learning and Smart Campus
- Copperbelt University: Digital Teaching Resource Building and Application
- Cadi Ayyad University: Improving Professional Development of Teachers and Blended Teaching Competencies
- University of Sharjah: Empowering Education Inclusivity through Hybrid Learning
- MUST: Blended Learning Capacity Building for STEM Teachers through IIOE Pilot Project in Mongolia
- Ahmadu Bello University: Empowering Institutional Policy Implementation for Digital Teaching and Learning in Nigeria

The Pioneer Award:
Empowering Global Innovators to Drive Digital Transformation in Higher Education

The Pioneer Award is committed to discovering localised practical solutions in developing countries and promoting digital transformation in global higher education through best cases. It also aims to generate a widespread impact to improve the quality and equity of education.

The "Higher Education Digitalisation Pioneer Case Award" (hereinafter referred to as the Pioneer Award), organised by the International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI), aims to inspire the constructive explorations, innovations, and practical implementations undertaken by individuals, partner institutions, and enterprises in the domains of pedagogy and administration. The Pioneer Award is a philanthropic prize directed by UNESCO-ICHEI, made possible through corporate sponsorship. The theme of the 2023 Pioneer Award is **"Reform and Innovation of Blended Learning in Higher Education"**, covering innovative teaching, resource building, student support, institutional governance, and strategic transformation, etc.

A total of **83 institutions and 9 enterprises from 42 countries** participated in the first Pioneer Award, collectively submitting **131 works**. Twenty-two outstanding cases have emerged as winners. Among them, there are 12 cases from overseas institutions, 4 cases from Chinese institutions, and 6 cases from enterprises. The Pioneer Award not only serves as a platform for exchanges between higher education institutions (HEIs) from various countries but also as an important stage for university-enterprise cooperation and innovation in digital education.

Background of the Pioneer Award

The integration of digital technology and education is exerting a more extensive impact on the transformation of higher education in developing countries, but the global digital divide remains a pressing challenge. According to UNESCO's *Global Education Monitoring Report 2023*, the pace of technological development surpasses the speed at which technology is evaluated. Educational technology products, on average, undergo updates every 36 months, with the majority of evidence coming from Global North countries. In contrast, low- and middle-income countries face equipment shortages and limited internet connectivity, making it more challenging to undertake digital transformations and harness the potential of digital technology in teaching [1].

Amid the ongoing transformation of higher education into the digital realm, it is crucial to assess, research, and reevaluate how educational technology is employed. A thorough understanding is required of how various technologies deeply integrate with teaching methods and how they adapt contextually to specific countries and areas. Not all experiences with technology in education are universally applicable, as what works in one environment might not seamlessly transfer to another. As technology matures and becomes more complex, it is essential to draw upon a diverse range of cases and experiences to explore the practicality and innovation. The Pioneer Award aims to inspire and encourage International Institute of Online Education (IIOE) global partners to engage deeply in the digitalisation of higher education.

The Judging Committee and Mechanism

UNESCO-ICHEI establishes a judging committee consisting of UNESCO agency experts, IIOE international advisory experts, International Institute of Online Education (IIOE) project advisors and experts, as well as renowned experts in the field of digital transformation in higher education, to conduct a diverse, authoritative and professional global award campaign. This committee guides the direction of the awards, formulates evaluation rules and criteria, executes the evaluation process, and confirms the evaluation results. A final decision must be approved by a majority to be considered valid. According to the evaluation standards and procedures, the jury comprehensively evaluates and scores the participating works and provides professional opinions and suggestions.

Twelve experts collectively worked on the selection process for the First Pioneer Award. The selection is based on six key elements:

- **Project design:** whether it is closely centred on the theme "Reform and Innovation of Blended Learning in Higher Education" and whether it contributes to quality, inclusion, and equity in education.
- **Effectiveness of implementation:** whether the project has improved the effectiveness of teaching and learning or institutional governance, including the effectiveness of student learning, the quality of teaching, and the effectiveness of policy implementation.
- **Professional development:** Whether the project is effective in enhancing teachers' professional development and digital competency, including teachers' self-development and training.
- **Regional impact:** Whether the project has been reasonably adjusted and adapted to the local culture, social background and other factors, and whether it is able to integrate with the local society and culture.
- **Innovation:** The degree of innovation in teaching mode, curriculum design, teaching resources, teaching development and institutional governance.
- **Sustainability:** Whether the experience and methodology of the project have the potential for long-term sustainable operation and can be replicated in other universities.

The Meaning of the Pioneer Award Logo

UNESCO-ICHEI Higher Education Digitalisation Pioneer Case Award

The logo of the Pioneer Award is composed of five petals in different colours, combining elements of education, digitalisation, and pioneering spirit. Among these, the colour red represents the iconic tone of SDG 4, which responds to "ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all." The five petals are arranged in a rotating pattern, symbolising the continuous blossoming and flourishing of higher education through digital empowerment. This dynamic and lively representation signifies the future of education, about transformational learning in all its richness and vitality.

Reference:

[1] UNESCO. (2023). Generative Artificial Intelligence in education: What are the opportunities and challenges? Paris: UNESCO.

International Jury of the Pioneer Award

LIM Cher Ping

Chair Professor and Associate Dean (International Engagement), Faculty of Education and Human Development, Education University of Hong Kong, China; Chief Expert of IIOE, UNESCO-ICHEI

Grace Oakley

Associate Professor and Deputy Dean of the Graduate School of Education, University of Western Australia, Australia

Paul Prinsloo

Research Professor in Open Distance Learning, University of South Africa

Francesc Pedró

Director, UNESCO International Institute for Higher Education in Latin America and the Caribbean

Elie Michel Kedjo

Program Coordinator and Focal Point for Higher Education at the UNESCO Regional Office in Dakar.

LIU Qingtang

Professor, Dean of School of Educational Information Technology, Central China Normal University

YAN Hanbing

Professor, Dean at the School of Open Learning and Education, East China Normal University

WEI Fei

Associate Research Fellow, Deputy Dean of School of Open Learning and Education, East China Normal University

FAN Hongyan

Deputy Chief of Research and Development, School of teacher development, East China Normal University

WANG Jing

Deputy Director, Learning Mall, Centre for Knowledge and Information, Xi'an Jiaotong-Liverpool University

CUI Wei

Quality Assurance and Compliance Specialist, Learning Mall, Centre for Knowledge and Information, Xi'an Jiaotong-Liverpool University

XUE Xinrong

Senior Instructional Designer, Learning Mall, Centre for Knowledge and Information, Xi'an Jiaotong-Liverpool University

UET, Lahore:
A Case of Technology-Training Convergence in AR/VR and AI Era in Pakistan

Project: Empowering Learners Through Blended Learning and Key Enablers: A Case of Technology-Training Convergence in AR/VR and AI Era in Pakistan
Organisation: University of Engineering and Technology (UET), Lahore, Pakistan
Country: Pakistan
The jury's comment: Starting from IIOE's Smart Classroom (SCR) and online resources, and the innovative integration of emerging technologies, the project has made a step further from digital literacy to Artificial Intelligence (AI) literacy to support teachers and students with blended learning. students and educators.

Prof. Dr. Waqar Mahmood

Director at KICS-UET

Mr. Muhammad Tahir Naeem

Manager at KICS-UET

Project Background

With approximately 244 universities and 3,000 degree colleges as public and private institutions, Pakistan is a country rich in cultural diversity, with a multitude of languages, traditions, and historical legacies. This diversity extends to its education system, which is highly centralised, and the government plays a dominant role in setting policy and curriculum. Furthermore, Pakistan's higher education system is facing a number of challenges, including limited access to educational resources and inequity across the country. Therefore, blended learning is seen as a promising way to improve the quality and accessibility of higher education.

The University of Engineering and Technology (UET) Lahore is a public university located in Lahore, Punjab, Pakistan. Since establishing the Smart Classroom (SCR) facility in 2019, becoming a founding member of the flagship International Institute of Online Education (IIOE) in 2019 and commencing as IIOE National Centre of Pakistan in 2021, UET Lahore has made significant progress in the digital transformation of higher education domain in Pakistan. Al-Khwarizmi Institute of Computer Science (KICS), an integral part of UET Lahore and under the leadership of Prof. Dr. Waqar Mahmood, has been the main driver of key initiatives of the International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI) at the regional and national levels. In addition, Pakistan has 2600+ active members of the IIOE platform.

Project Objectives

UET Lahore's KICS envisions that blended learning can help to address education's challenges to some extent by:

- **Improving access:** Since technologies offer boundless imaginations, blended learning can make higher education more accessible to Pakistani teachers and students who are unable to attend traditional campus-based programmes.
- **Promoting equity:** Blended learning can help level the playing field for underprivileged teachers and students from all backgrounds in urban and remote areas of Pakistan.

Innovative Design

KICS has encouraged faculty members to adopt innovative teaching methods by conducting workshops, seminars, and webinars on digital teaching strategies. The KICS has also promoted the use of emerging technologies such as Artificial Intelligence (AI), Augmented Reality (AR), and Virtual Reality (VR) to enhance pedagogical approaches. Some applications encompass VR Frog Dissection Simulation, Learning and Visualising Alphabets in AR, AR Solar Systems, VR Training for Solar Panel Installation, Chemistry Lab, and Virtual Electronics Lab. With the attached materials, it is clear that with AR and VR, educators can deliver course content more interactively than traditional two-dimensional methods. These applications have immersive 3D content for visualisation and a deep understanding of the subject's concepts.

Commissioned by Large Language Models (LLM) and Generative AI (GenAI) applications such as ChatGPT, UET Lahore orchestrated a highly effective summer boot camp that delved into the realms of advanced technologies, including AI and Full Stack Development. This innovative programme seamlessly integrated blended learning, accommodating onsite and online students. Notably, the provision of recorded lectures for self-paced learning during non-peak hours expanded the reach and accessibility of the programme,

facilitating simultaneous learning for a larger and more diverse cohort of students. This approach optimised learning opportunities and fostered a dynamic and inclusive educational environment.

Project Outcomes

UET Lahore has been at the forefront of driving the reform and innovation of blended learning in higher education. KICS's commitment to leveraging technology and digital solutions has played a pivotal role in enhancing the education landscape. KICS's work and achievements can be showcased in the following sub-areas related to the reform and innovation of blended learning.

- **Digital Classroom Teaching:** KICS has been instrumental in revolutionising digital classroom teaching by developing and implementing robust Learning Management Systems (LMS). These systems facilitate seamless content delivery, interactive sessions, and real-time assessment.

- **Digital Practical Teaching:** Incorporating hands-on learning experiences in a smart classroom setting has been a significant challenge. KICS's work has focused on developing smart classrooms that provide students with practical exposure, even when physically distant.

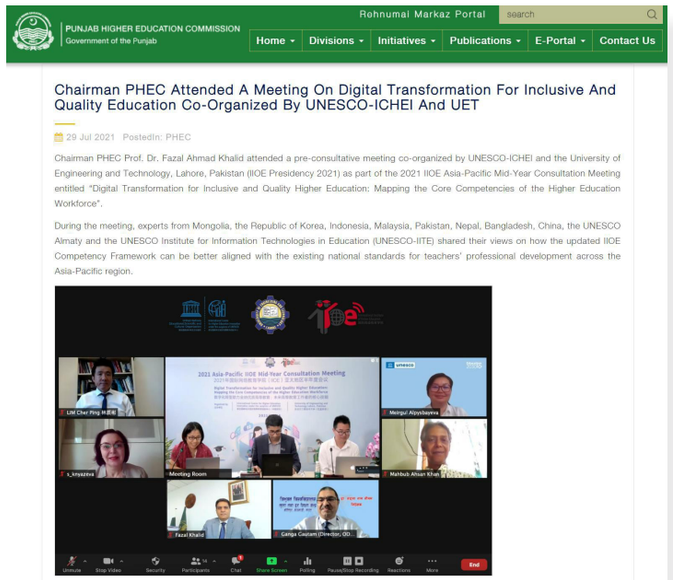
- **Digital Teaching Resource Building and Application:** KICS has built extensive digital teaching resources and applications, including Open Educational Resources (OER) repositories, online textbooks, and multimedia content. These resources are easily accessible to both educators and students.

- **Digital Strategy and Transformation Policy:** KICS has collaborated with universities to formulate digital strategy and transformation policies. These policies serve as roadmaps for institutions looking to embark on their digital transformation journey. They include guidelines for investment, infrastructure development, and faculty training.

Please scan the QR code to watch the Virtual Lab videos

Virtual Chemistry Lab

Virtual Electronics Lab



Chairman of Punjab Higher Education Commission attended a meeting co-organised by UNESCO-ICHEI and UET

Impact and Sustainability

Different segments of the project successfully harnessed digital technology to modernise teaching and learning design in higher education at UET Lahore. It tackled issues of access, quality, resources, and teacher training, making education more inclusive.

- Access and Inclusivity: One of the major problems addressed was the lack of access to quality content and instruction, particularly for learners with low-or-no ICT background. The introduction of online and blended learning, supported by digital technology, expanded access to a broader range of students, bridging geographical gaps.

- Quality Enhancement: As mentioned earlier, the quality of higher education in Pakistan faced challenges across institutions, including UET Lahore. The use of AI, AR, and VR technologies improved the quality of teaching and learning by making it more interactive, personalised, and engaging.

- Resource Sharing: UNESCO-ICHEI's Smart Classroom project and IIOE platform's digital technology reduced the burden on physical infrastructure and allowed for the efficient utilisation of resources. AI-driven content delivery enabled instructors to reach more students with fewer resources.

- Teachers' Training: The project provided comprehensive training for educators in the effective use of digital tools and technologies, ensuring they could adapt to the evolving educational landscape.

In the future, KICS aims to extend its efforts to promote regional educational equity by partnering with universities in underserved areas. Future initiatives may provide access to digital resources, facilitate online courses, and develop localised content to bridge the educational gap.

Ain Shams University: **Empowering Higher Education Institutions For Digital Teaching and Learning in Egypt**

Project: Empowering Higher Education Institutions For Digital Teaching and Learning in Egypt
Organisation: Ain Shams University
Country: Egypt
The jury's comment: This project fortifies the IIOE Egypt National Centre and advances digital teaching and learning in Egyptian HEIs, promoting interactive and engaging learning experiences for students and educators.

Project Background

In Egypt, digital transformation has become a priority of national development. However, it was found that despite numerous achievements, Egyptian Higher Education Institutions (HEIs) still face various challenges in achieving more effective digital teaching and learning.

- Teachers' digital teaching competencies need to be further strengthened with special emphasis on improving the quality of digital courses.
- There is a need for awareness raising and sharing of experience among HEIs' top management to better steer the digital transformation process and manage change.
- There is a need to guide HEIs' management in translating visions and strategies into supportive policies, standards, guidelines, and daily practices.

To address these challenges, the International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI) and Ain Shams University jointly established the International Institute of Online Education (IIOE) Egypt National Centre in May 2022. The Centre aims to build a national network of Higher Education Institutions (HEIs) and construct a national platform of dialogue for the professional development of the higher education workforce. As of December 2022, twenty-three Egyptian HEIs have joined the IIOE Egypt National Centre network, forming a national community of HEIs committed to digital teaching and learning. The IIOE Egypt National Centre, in collaboration with UNESCO-ICHEI, launched the project "Empowering Higher Education Institutions for Digital Teaching and Learning in Egypt" to support higher education digital transformation.

Project Objectives

The project's overarching goal is to fortify the IIOE Egypt National Centre and advance digital teaching and learning in Egyptian HEIs.

The project has two specific goals:

- Enhance teachers' competencies in digital teaching, improve the quality of digital courses, and strengthen digital teaching practices.
- Establish a conducive institutional environment for digital teaching and promote the culture of digital transformation in higher education among the Egyptian HEIs' management.

Innovative Design

The project encompassed innovative digital tools and approaches aiming to enhance educational experiences, expand educational opportunities, remove physical constraints, and promote interactive and engaging learning experiences for students and educators alike. Here are a few examples:

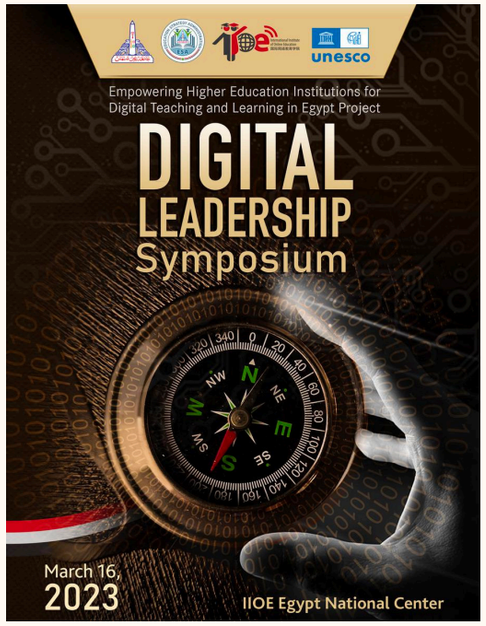
- **Learning Management Systems (LMS):** LMS platforms (ASU2Learn) served as a central hub for online courses, allowing educators to create and organise course content, deliver assignments, facilitate discussions, and track trainees' progress.
- **Online collaboration platforms:** The final project was assigned to different teams of master teachers who were tasked with utilising a variety of collaborative online tools to enhance their productivity and streamline their workflow. The team began by using online group communication platforms to arrange their meetings, such as Zoom and virtual white-boarding tools like Miro and Mural.
- **Presentation Tools:** Tools like Microsoft PowerPoint, Google Slides, or Prezi offer dynamic ways to create visually appealing presentations. They enabled master teachers to incorporate multimedia elements, interactive features, and collaborative editing capabilities to make sessions more engaging.
- **Project-based training:** Projects were in the form of designing and developing online courses targeted at students, in which teams worked together to accomplish the tasks.
- **Hybrid Conferences:** Hybrid conferences combine physical and virtual elements, giving attendees the option to participate either in-person or remotely. This was applied in two activities: the National Policy Dialogue in January 2023 at Galala University and the Digital Leadership Symposium in March 2023 at the Innovation Hub (iHUB) of Ain Shams University.

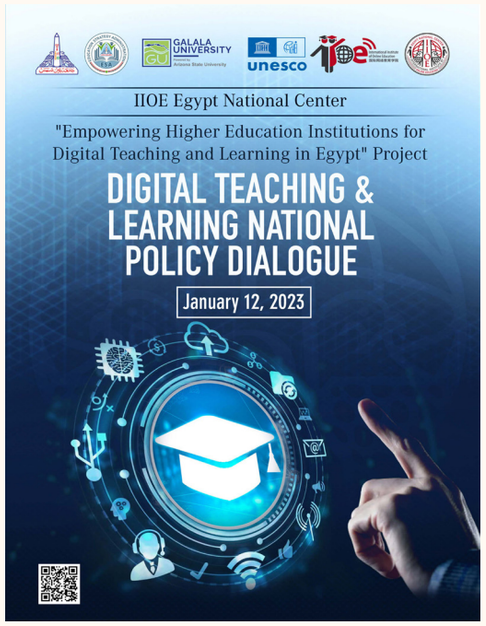
Project Outcomes

- **Digital Teaching Training Programme:** It aligns with the broader mission of IIOE to catalyse positive transformations in online education and equip educators with the necessary skills. Two rounds of three workshops on digital teaching and learning for master teachers from national partner HEIs of the IIOE Egypt National Centre. Notable achievements include the participation of 63 teachers, of which 37 were females, constituting 64.7% of the total. Impressively, 51 teachers received certificates of competency, representing an 82.5% completion rate.

- **Egyptian National Policy Dialogue for Digital Teaching and Learning:** The event was organised by IIOE Egypt and hosted by Galala University. Keynote speeches highlighted the importance of quality assurance and international best practices in eLearning. A panel discussion highlighted the impact of digital teaching strategies and the challenges faced by Egyptian universities. The event concluded with the release of a report supporting digital teaching and learning in Egyptian higher education, which was in line with Egypt's national strategy for digital education.

- **Digital Leadership Symposium:** The symposium endeavoured to strengthen the digital leadership capabilities of top management in Egyptian HEIs and assist HEIs in formulating digital transformation strategies and policies.





Impact and Sustainability

The training programme that was targeted to master teachers and change agents in their institutes aimed to equip them with the necessary knowledge and skills to effectively integrate blended learning into their classrooms. Teachers received comprehensive training on various aspects, including selecting appropriate online resources, designing interactive online activities, and managing and evaluating blended learning environments. By mastering these techniques, educators were empowered to create engaging and personalised learning experiences for their students. Moreover, they were introduced to the IIOE platform and encouraged to conduct training and support other teachers at their universities using the provided resources.

The sustainability of any educational initiative relies on the active involvement of policymakers and educational leaders. The project facilitated policy dialogues where key stakeholders, including education policymakers and university management, discussed the benefits and challenges of implementing technology tools in higher education and shared their experiences. These conversations helped build consensus on the importance of integrating technology into education and paved the way for the creation of supportive policies and guidelines. By engaging higher education leadership, the project ensured that the necessary support and resources were available to sustain the blended learning initiative beyond the initial training phase.

> “The sustainability of any educational initiative relies on the active involvement of policymakers and educational leaders.”

A collaborative network of representatives of the partner universities was formed to continuously discuss the opportunities for professional development and support teachers in refining their blended learning practices and staying up to date with the latest technological advancements. Moreover, this network aimed to encourage knowledge sharing and peer support among educators. Additionally, monitoring and evaluation systems, such as the IIOE Quality Assurance Framework 2.0, were introduced to ensure ongoing assessment of the effectiveness of blended learning implementation.

UN-CHK: **The Role of Open Digital Spaces in Distance Education in Senegal and Sub-Saharan Africa**

Project: The role of Open Digital Spaces (ENO) in distance education in Senegal and Sub-Saharan Africa
Organisation: Université numérique Cheikh Hamidou KANE (UN-CHK, ex UVS, Virtual University of Senegal)
Country: Senegal
The jury's comment: The Open Digital Spaces (L' Espace numérique ouvert, ENO) make digital technology accessible to all possible, especially communities that cannot follow the courses in traditional universities, promotes the inclusion of people with reduced mobility, and the reduction of gender-related inequalities.

Project Background

The creation of the Université numérique Cheikh Hamidou KANE (UN-CHK; formerly UVS, Virtual University of Senegal) in Senegal addresses the need to improve accessibility to higher education. It is a public university with an innovative learning system based on Information and Communication Technology (ICT). UN-CHK transforms the traditional university ecosystem by focusing on digital orientation. It promotes the use of new technologies and plays a pioneering role in combating the digital divide in Senegal. It is also the first digital university in West Africa, offering diverse training programmes tailored to the needs of learners (students and professionals), including digital and emerging science disciplines and classical ones. UN-CHK is at the forefront of shaping the educational landscape in the region.

Project Objectives

The Open Digital Spaces (L' Espace numérique ouvert, ENO) makes digital technology accessible to all, especially communities unable to access traditional university education. The ENO network promotes the inclusion of persons with reduced mobility and gender-related inequality reduction. Women find a welcoming learning environment, boosting female enrollment rate in higher education; for instance, there's a 55% female presence at UN-CHK. Implementing ENO addresses the training needs of local communities. The ENO network aims to enhance digital territorial planning, with each ENO interconnected to the University's headquarters, equipped with necessary ICT tools for effective learning (e.g. high-speed internet, video conferencing, telemedicine, computers, etc.).

Innovative Design

Through its ENO, UN-CHK has a multimedia production setup for digital content creation. The model used within the University is called the Adapted Comodal (le Comodal adapté), which allows face-to-face and distance learning models to coexist simultaneously, adapting content delivery to learner needs and preferences. UN-CHK offers over 200 accessible training portals through a single gateway at the online learning platform.

- Free provision of student work tools (computers and internet packages) to enhance student autonomy and initiative.

- Provision of ENO: ENO is equipped with a technological infrastructure hosting students for learning activities and provides thin clients (explained below) for students who benefit from teacher guidance, tutors, and monitors through synchronous sessions (virtual classrooms), live lectures (synchronous sessions between teachers and students), and asynchronous activities (discussion forums), with open access to online library resources.

In UN-CHK's ENO, pedagogical design includes formative and summative assessment methods to measure learners' understanding and achievement of pedagogical objectives. Learning resources are developed as manuals, videos, audios, simulations, and tele-laboratories to support learning. At the end of the training, questionnaires are given to students to evaluate teachers and their teaching. The course or programme may be revised based on learner feedback, reflecting an iterative process aimed at continuously improving learning outcomes.

Generative and predictive Artificial Intelligence (AI) for online assessments is being tested for automated assignment grading and exam topic generation. Augmented reality (AR) is utilised in specific fields, such as robotics or modelling, for simulations, virtual tours, and practical experiments. With the analysis of data generated by our learning platforms, teachings are becoming increasingly personalised.

Thin Client

In computer networking, a thin client is a simple (low-performance) computer optimised for establishing a remote connection with a server-based computing environment. This contrasts with a rich client or a conventional personal computer; the former is also intended for working in a client–server model but has significant local processing power, while the latter aims to perform its function mostly locally. A thin client is cheaper than a conventional computer because the former has lower IT-support costs. Moreover, thin clients can significantly improve students' access to the Internet and digital devices.

Source: Jacquelyn Bengfort. "Zero vs Thin vs Thick Clients: What's Right for Your Business?" Technology Solutions That Drive Business. https://biztechmagazine.com/article/2018/10/thin-vs-thick-vs-zero-client-whats-right-fit-your-business-perfcon

Project Outcomes

Over ten years, UN-CHK has successfully implemented an innovative pedagogical model based on new technologies. The establishment of ENOs and the pedagogical model has enabled reaching over 60,000 students in 2023 compared to 2,400 in 2013. The initially high dropout rate (40%) saw significant improvement, dropping to 11% in 2023. Success rates are 77% for undergraduate degrees and 89% for master's degrees.

UN-CHK's model has been highly successful in the sub-region. Countries such as Ivory Coast, Burkina Faso, Mali, Chad, Guinea, and Gabon have benchmarked with UN-CHK and expressed interest in adopting its model. The university has become Senegal's second-largest in terms of enrollment, with 30% of the country's high school graduates now directed to UN-CHK.

Through ENOs, UN-CHK has also conducted significant community service activities, including training, popularisation of sciences, and digital literacy initiatives, benefiting approximately 82,950 individuals in 2022.

Plans include:

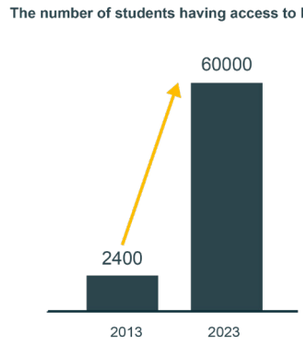
- Establishing ENOs in all 46 departments of Senegal (at least one in each) within five years. Currently, there are 17 functional ENOs and 23 under construction;

- Defining and supporting an effective management model for the sustainability of ENOs;

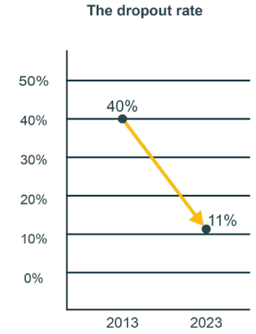
- Designing and modelling ENOs to ensure better alignment between missions and human, financial, material, and pedagogical resources;

- Defining and supporting a socialisation framework with an environment conducive to students' social, cultural, and sports development.

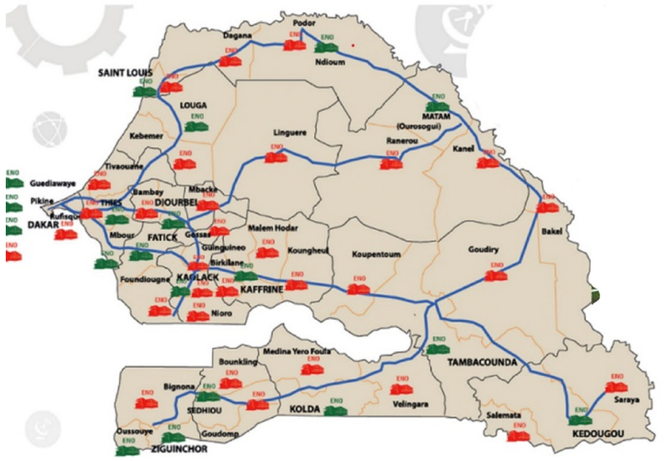
Senegal and its partners are responsible for building the ENOs. The map above shows ENO delivered or under construction in green and ENO in the pipeline in red.



UN-CHK has significantly increased the number of students using ENOs



The dropout rate of UN-CHK has been effectively controlled



Impact and Sustainability

UN-CHK is the first digital public university in Francophone Africa with an exclusively innovative pedagogical model dedicated to distance learning. It has contributed to expanding the university landscape with the establishment of a network of Open Digital Spaces, which helps reduce the digital divide through its modern technological setup. This unique model in West Africa addresses the training needs of communities and facilitates their global connectivity through digital means. UN-CHK is committed to promoting innovative teaching methods tailored to socio-economic realities. The UN-CHK model, along with its ENOs, is being replicated in the sub-region, with Burkina Faso and Guinea's Institut Supérieur de Formation à Distance (ISFAD) adopting the same model with ENO integration.

TUIT: **Empowering Qualified Information and Library Specialists through the Competency-based Approach and the Case-study Method**

Project: Educational laboratory "Digital Library" (simulator) based on the competency-based approach and the case-study method to improve the training of qualified information and library specialists
Organisation: Tashkent University of Information Technologies
Country: Uzbekistan
The jury's comment: This well-achieved project has a high potential to be replicated by more peers. The pedagogical experiment result is very impressive and has great potential to be extended to a wider scope within institutions and disciplines.

Project Background

The system of training, retraining, and advanced training of library personnel, unfortunately, today does not meet modern requirements. More than 12 thousand information and library institutions and 27 thousand library employees work in information and library institutions in the country. They need to acquire modern knowledge and skills in digital technologies; accordingly, they need innovative methods and approaches applicable to the educational process.

Today, at two universities, the Tashkent University of Information Technologies named after Muhammad al-Khwarizmi (TUIT) and the State Institute of Arts and Culture (SIAC), as well as in their branches, about 1000 students study (full-time and part-time) in the direction of "Library and Information Activities". One of the prerequisites for the development of blended education methods for library staff was the need to use distance learning systems during the COVID-19 pandemic, where teachers were forced to conduct online and offline classes.

Aligning with the national strategy *"The Concept of Development of the Higher Education System of the Republic of Uzbekistan until 2030",* the TUIT has been reforming the existing higher education system with the transition to a credit-modular education system, which implies a radical change in the entire paradigm of education and a closer connection between "education-science-production-digital economy".

Project Objectives

The purpose of the project is to improve the training of qualified information and library specialists based on innovations in digital education (competency-based approach and case-study method), blended learning using specialised information and library systems (ILS).

- The project aims to improve the rate of qualified information and library specialists through the use of advanced ICT in the learning process;
- Increase students' interest in the learning process;
- Provide advanced training and professional development of teachers;
- Improve the quality in teaching special subjects;
- Overcome psychological barriers to the introduction of ICT on the part of all participants in the educational process;
- Increase students' competence in the use of advanced ICT.

Innovative Design

The main emphasis in pedagogical design was on improving information and communication competency and the development of future library specialists' professional interest in innovations of digital technologies in

the educational process (multimedia resources, collaborative navigation and design, analytical platforms, automated ILS), educational platforms (moodle.tuit.uz), distance learning tools, development of an industry digital library, etc.).

The project has innovative efforts in three aspects:

- Application of blended learning in the educational process in the training of library personnel using ILS;
- Using the case-study method with digital learning innovations (Zoom, Kahoot, IBS, and other platforms);
- Development of cases based on real professional scenarios using intelligent ICT.

> The "Digital Library" will improve the training of qualified information and library specialists based on innovations in digital education, providing digital resources, SMART Class, information and analytical competence, and so on.

Project Outcomes

The creation of a training laboratory called "Digital Library", which, in turn, will contribute to improving the training of qualified information and library specialists based on innovations in digital education (digital resources, SMART Class, information and analytical competence, digital simulators, ILS) in the course: "Information and Analytical Products and Services".

The key features of the project:

- Use of ILS for students to simulate real production situations in the classroom cases (with open and closed code);
- Opportunity for students to remotely create electronic resources (electronic libraries, electronic catalogues, full-text information databases, etc.);
- Studying a particular course based on the case-study method using digital systems of learning process controllers and intelligent ICT (lms.tuit.uz, xn.tuit.uz, ILS, Kahoot);
- Quick adaptation of graduates to real work in information and library institutions;
- Final qualification work is carried out on a specific production base and using digital technologies.

> The use of digital technologies in the educational process forms the psychological perception of innovations and helps more people become competitive in the labour market

Impact and Sustainability

The use of digital technologies (simulators in the educational laboratory, automated ILS with open and closed code) in the educational process forms the psychological perception of innovations, further interest, desire and need to use them in their professional activities in order to be competitive in the labour market.

Several innovative digital technologies used in real library practice have been implemented into the educational process (development of joint Biblio-Pro projects, technologies of the Library 4.0 concept, electronic cataloguing, cloud technologies, and Radio-frequency identification (RFID) technologies in libraries). The formation of a system of information and analytical competencies of an information and library specialist will open up new opportunities in the process of implementing and applying innovative technology when transitioning to the era of digitalisation of education.

Addis Ababa University: **Digital Classroom Teaching Implementation in Ethiopia**

Project: Digital classroom teaching implementation at Addis Ababa University, Ethiopia
Organisation: Addis Ababa University
Country: Ethiopia
The jury's comment: Digital classrooms have reformed the University's teaching method and accelerated the University's digital transformation. It enhances the teaching capacity and empowers the University to extend its impact on society.

Dr. Mulat Asnake

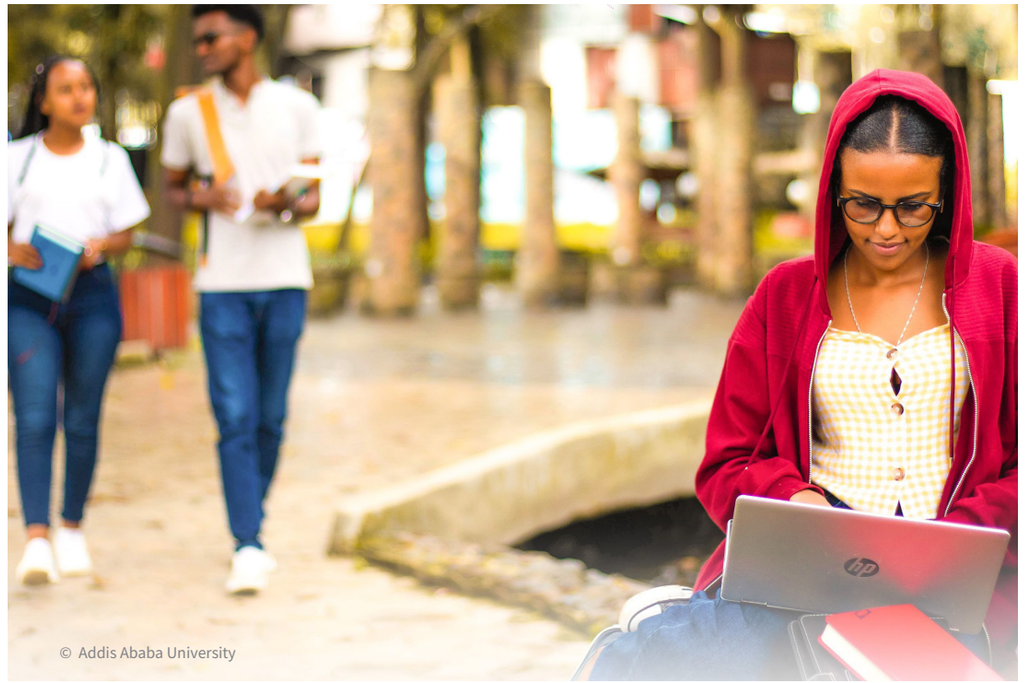
Director for Continuing and Distance Education at Addis Ababa University
Project team leader

Mr. Yosef Shiferaw

ICT Director
Project team member

Mr. Fanuel Zegeye

E-learning team leader of the ICT office
Project team member



Project Background

Digital learning has become a prerequisite for acquiring knowledge and accessing the amenities of higher education. As one of its core values, Addis Ababa University promotes the development of innovative ideas that are marketable and address societal needs. Furthermore, excellence in research, technology transfer, and knowledge management is one of its strategic thematic areas, and investing in ICT technology, infrastructure, and institutional facilities is a major strategic goal of the University. The University encourages online learning systems with its motto of 'all-digital'. Addis Ababa University introduced technology-enhanced classroom teaching and learning initiatives five years ago to attain its stretched strategic goals, initiatives, missions, and vision. It continues implementing digital classroom education, mainly in its graduate programs, by utilising new digital tools.

Project Objectives

Addis Ababa University has introduced digital classroom teaching with the overarching goal of enhancing quality higher education.

The specific objectives include:

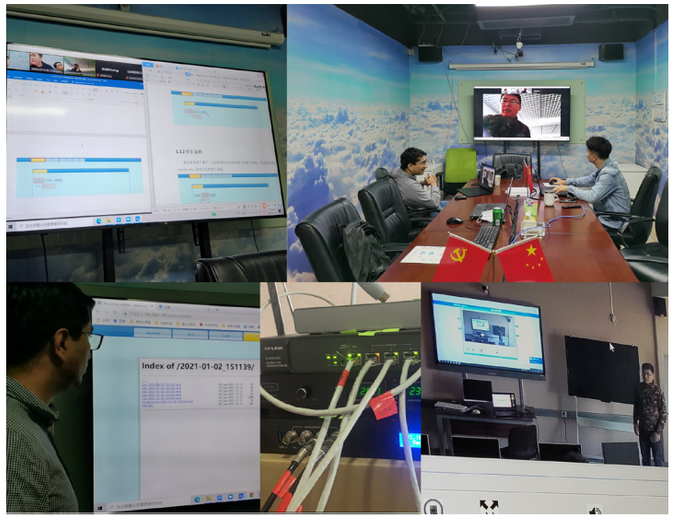
- To open up the opportunity for students to access education at a time and place of their choice and pace of learning.
- To enable personalisation of the course materials used by the students.
- To provide affordances unavailable in other formats, including the ability to provide.
- To enable learners to cultivate an innovative culture positively imparting for their study and beyond.
- To create alternative learning opportunities for learners.

Innovative Design

The application of digital classroom teaching is innovative in many ways. Before its introduction, teaching-learning activities at Addis Ababa University used to be conducted in traditional ways by utilising low-tech teaching resources, including chalk and blackboards, whiteboards and markers, LCD projectors, etc. Moving forward to using high-tech pedagogical resources supported by digital tools is a transformative venture. This innovation has solved the practical challenges of inflexible teaching modality and improved the interests of learners.

In most colleges, Addis Ababa University uses SMART Interactive Whiteboards/Displays during the teaching-learning process. The University introduced around 30 Interactive Touch Screens five years ago. The Interactive Touch Screens have a number of functions that create opportunities for students and learners to access digital education. Teachers share reading materials and assignments using Touch Screens and give immediate feedback to the students.

In addition, teachers can access e-learning resources from Addis Ababa University Digital Library, Moodle e-Learning platform, and other possible global sources and distribute them to their students. Addis Ababa University, particularly Addis Ababa Technology Institute's teachers, are using the International Institute of Online Education (IIOE) Smart Classroom launched by the collaborative efforts of the International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI) and Addis Ababa University. This Smart Classroom has more advanced functions, including cameras that can broadcast fully together with Zoom and Microsoft Teams platforms. In general, these digital resources are used in combination with the face-to-face modality following a blended approach.



Smart Classroom at Addis Ababa University

Project Outcomes

The implementation of digital classroom teaching in Addis Ababa University has resulted in a number of positive outcomes in the teaching-learning process.

- Many students and teachers have become aware of the technology, which helped them facilitate their teaching and learning endeavours. Since digital technology is exciting for learners, it has assisted them in being more engaged in their education.

- It has encouraged active learning, knowledge construction, inquiry, and exploration on the part of the learners. It increased students' decisions about their studies, the sharing of their ideas and experiences, and the use of help from other students and teachers.

- Digital technology has provided immediate feedback for both the learner and the teacher. All these efforts will contribute to better learning and achievement of the learning objectives. The introduction of digital education has also contributed to the technological capacity of the university.

> The digital classroom has contributed to the development of institutional capacity. Generally, the impact could also go beyond the University and contribute to the national development of the country.

Impact and Sustainability

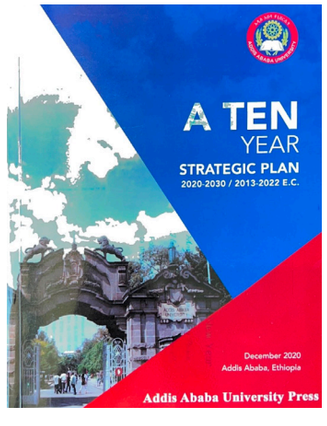
The digital classroom has contributed to the development of institutional capacity. Generally, the impacts could also go beyond the University and contribute to the national development of the country. The sustainability of digital classroom teaching at Addis Ababa University is ensured.

- First, the application of ICT technology in higher education is a global phenomenon, and this international trend is an opportunity for more advancement of technology-supported teaching than ever before.

- Second, it has unwavering support from the university management team, and this is reflected in its *Ten-Year Strategic Plan (2020-2030)*.

- Third, the application of digital technology in higher education teaching is becoming a culture of the University that facilitates the acceptability of digital tools by the broader university community.

Ten-Year Strategic Plan (2020-2030) of Addis Ababa University



Tecnológico de Monterrey: **Generating Learning Opportunities in Logistics through GOAL Project**

Project: GOAL Project: Generating Learning Opportunities in Logistics
Organisation: Tecnológico de Monterrey (Monterrey Institute of Technology and Higher Education, ITESM)
Country: Mexico
The jury's comment: GOAL is an online platform encompassing blended learning, containing valuable resources for students, and offering students a coherent knowledge framework instead of the fragmented offerings found in many university curricula.

ALEJANDRO FLORES

Expert in educational technology and support software designer

VIRGINIA RODES

Educational innovation coordinator and instructional design expert

IVAN ARANA

Educational researcher and learning facilitator

ERNESTO PACHECO

Project leader and designer of the simulator and platform

MICHEL ANGULO

Learning facilitator and expert in educational technology

CAROLINA ALCANTAR

Educational researcher and instructional designer

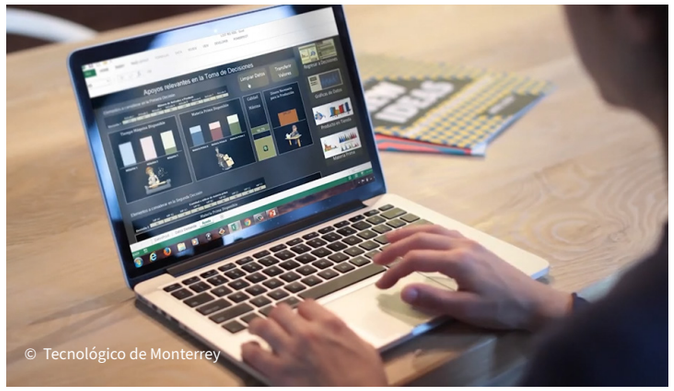
Project Background

The evolution of Information and Communication Technologies (ICT), intensified global market competition, changing customer expectations, and the prevalence of short product lifecycles have substantially transformed corporate production and logistics systems. On the other hand, ICTs have also led to substantial shifts in student characteristics and expectations.

However, a significant disadvantage for logistics development in Mexico and Latin America is that the majority of cases depicted in textbooks or scientific articles originate from logistics systems in developed countries (North America, Europe, and some parts of Asia), which significantly differ from those in developing nations. It is imperative to model and create cases that mirror their challenges to enhance efficiency in businesses within developing countries.

Traditionally, the topics of teaching logistics encompass forecasting, inventory management, transportation, and optimisation, among others. However, the

establishment of scenarios where students can visualise how these concepts interrelate is extremely limited. This has resulted in fragmented views of reality, whereas logistics intends to coordinate all the elements within the system. New learning designs must possess a fundamental feature: offering students a fresh and engaging learning experience, encouraging them to participate actively, and fostering the development of skills essential for the future.



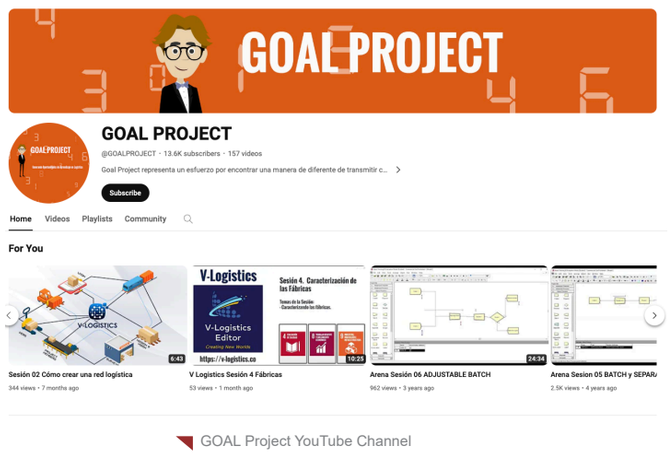
Project Objectives

"Generating Learning Opportunities in Logistics" (GOAL Project, for its acronym in Spanish, Generando Oportunidades de Aprendizaje en Logística) represents the effort of a group of professors in the logistics area of Tecnologico de Monterrey to disseminate and make more fun of the learning of logistical concepts. To do this, the group created an open online platform for students to find help with topics and exercises to practice and receive immediate feedback about their level of learning.

Beneficiaries of the platform implementation results include individuals and academic, business, civil, and government groups. Key stakeholders include the government (Department of Economic Development, Mexico), professional associations, NGOs, and the business sector.

The project's objectives include:

- Transform logistics into an integrative discipline, enabling students to experiment, devise strategies, manage interfaces, and comprehend the constraints of diverse logistics systems;
- Explore new ICT technologies that promote flexible, adaptable learning;
- Help students detect opportunities for improvement in their learning and skills;
- Motivate the students to commit themselves to their self-learning;
- Explore different support tools that help the students reflect on their learning process.



GOAL Project YouTube Channel

Innovative Design

Educational Videos

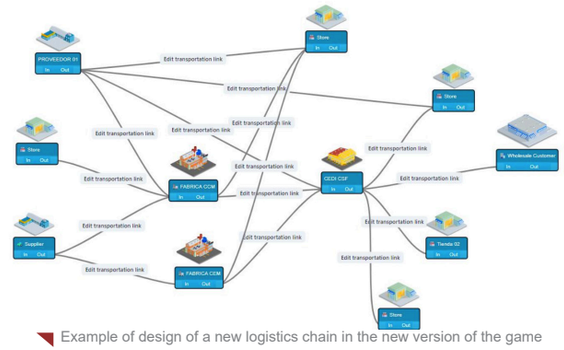
The GOAL Project is an academic platform to generate new methodologies for learning logistics. More than 150 videos have been placed on both the platform and a YouTube channel. This set of videos has been used to develop strategies such as "flipped classroom" and the development of "Self-Directed Learning" competencies.

A game called "Logistics Simulator" (LOST)

This game simulates the operation of a company dedicated to the manufacturing and sale of sports balls for various sports. The game's objectives are to help students quickly and enjoyably acquire logistics concepts, demonstrate the consequences of each decision, enable students to create mental models that help them identify key variables and the interrelationships between them, establish indicators that facilitate students in comparing their performance, generate motivation and commitment in students toward their own learning.

A reward system

To motivate students to review the videos produced, the platform has a reward system that teachers can design according to their interests. For example, based on the videos, it is possible to create different quizzes for different topics. Based on the results of these quizzes, a rewards system can be generated that allows participants to modify certain game characteristics (reduce delivery times, lower costs, increase demand, increase production, etc.). This feature of the platform enables teachers to use gamification techniques.



Example of design of a new logistics chain in the new version of the game

Project Outcomes

The GOAL Project platform (http://goalproject.co) has garnered over one and a half million visits, and over 20,000 individuals have registered on the platform. It features two games, Logistic Simulator (LOST) and Production Game (PRO Game). The platform is freely available, and all academic resources have been delivered as Open Educational Resources. Over sixty universities in Mexico and more than forty universities abroad have used the platform. Additionally, a YouTube channel has been established, featuring over 150 videos related to logistics education and boasting more than 13,000 subscribers.

Within interviews with professors, the majority of them agree that:

- The use of the logistics simulator has generated greater motivation among students.
- Students who make an effort to achieve a better score regularly develop a clearer understanding of logistics-related concepts, meaning there is a significant relationship between the score obtained in the game and the grade obtained in quizzes and exams.
- Most professors favour establishing more activities that depend solely on the student, i.e., promoting self-directed learning.

Impact and Sustainability

The development of this platform is important because it contributes to the overall well-being of society by helping to generate a more competitive industry and individuals who are better prepared to make efficient decisions. Potential users of the platform will be able to acquire concepts in a playful manner, observe the consequences of each decision in different areas of an organisation, identify the key variables influencing a real process, and develop intrinsic motivation to investigate, understand, and experiment with new strategies to optimise problem-solving.

It is difficult to find a similar development that provides the flexibility and ease of use offered by this new software. Its development is important because it will allow the reflection of industry-specific characteristics in each region or country, enabling adjustments that cater to each company's unique needs and reflecting the characteristics that define and make each supply chain unique.

Please scan the QR codes below to view GOAL Project's videos and website.

GOAL's YouTube Channel

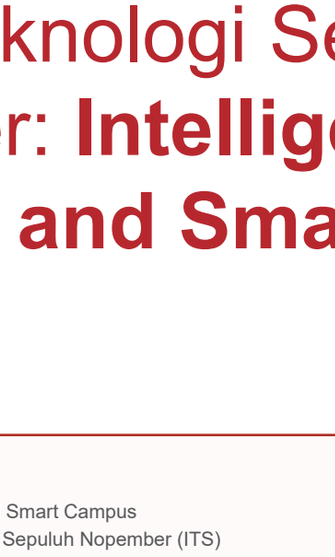
GOAL's Official Website

Institut Teknologi Sepuluh Nopember: **Intelligent Learning and Smart Campus**

Project: Intelligent Learning and Smart Campus
Organisation: Institut Teknologi Sepuluh Nopember (ITS)
Country: Indonesia
The jury's comment: The project demonstrates high inclusivity and equity, particularly in its focus on remote and underserved areas. It ensures the provision of equitable, high-quality education across the diverse regions of Indonesia.

Prof. Adi Soeprijanto

Prof. Aulia Siti Aisjah



Prof. Heri Kuswanto

Prof. Siti Machmudah

PhD Bagus Jati Santoso

PhD Fadlilatul Taufany

Project Background

Institut Teknologi Sepuluh Nopember (ITS) is systematising the "Intelligent Learning and Smart Campus" project to welcome a new era of digital education. This initiative is motivated by several critical factors shaping Indonesia's educational landscape. At the outset of 2020, Indonesia's education system grappled with the challenges of insufficient technological integration. The country was at a pivotal juncture, with a significant digital divide in education, particularly affecting remote and underserved areas.

Moreover, ITS, guided by the first point of its Master Development Plan (2016-2040): "the development of a more creative and flexible learning system based on information technology, where online learning plays a strategic role", recognises the imperative to develop a creative and adaptable learning system founded on information technology. This places online or blended learning at the core of their strategy. The COVID-19 pandemic further accelerated technology adoption in education at ITS, underscoring the need for resilient, technology-driven learning solutions. This backdrop highlighted the pressing need for digital transformation and innovation in education.

Project Objectives

ITS stands at the forefront of this transformative journey, fostering a culture of innovation, leveraging policy support, and harnessing technological capabilities to improve the quality of the internal learning process and ensure equitable access to quality education throughout Indonesia's diverse regions.

- **Digital Strategy, Regulation, Policy, Incentive Programmes, and Workshops:** This encompasses the development of comprehensive strategies, policies, and incentive structures to facilitate a seamless transition to digital education in ITS.
- **Innovations in Digital Learning:** ITS initiates some activities such as IoT Based Labwork, Workshops on Blended Learning, and Incentives of Online courses to promote digital learning in ITS.
- **Promotion of Regional Educational Equity:** ITS has opened access to its learning content via free MOOCs and is collaborating with the Ministry of Education to undertake various technology-based educational activities to support this mission.

Innovative Design

ITS has established a cutting-edge teaching system centred around a blended learning model, effectively combining digital media, digital technology, state-of-the-art hardware, and innovative classroom facilities.

This comprehensive approach encompasses various pivotal elements:

- **Smart Classrooms:** ITS has made significant investments to create 3-5 intelligent classrooms in its 39 departments. They empower educators to deliver interactive and engaging learning materials, elevate the quality of education, and foster active student involvement.
- **Online Learning Workshops:** ITS regularly conducts online learning workshops for its faculty members. The current focus is on harnessing Artificial Intelligence (AI) in education.
- **Blended Learning Regulations:** ITS has implemented specific regulations requiring at least 30% of teaching to be conducted face-to-face for each course.
- **Online Learning Incentive:** This incentive motivates instructors to enrich their course content in the Learning Management System (LMS) and utilise various IT-based learning tools.
- **Grants for Online Labs Innovation:** These grants incentivise faculty members to develop innovative solutions for online labs and learning.
- ***Quality Assurance Document for Electronic or Blended Learning:*** This document, initiated at the beginning of 2020, has become the primary reference for developing Learning Plans for all courses facilitated at ITS. Several aspects of quality assurance include Learning Tools, Material Adequacy, Methods of Blended/E-Learning Delivery, and Assessment and Evaluation.

In implementing "Intelligent Learning and Smart Campus" project, numerous innovative solutions have supported blended learning at ITS. The three main activities that encourage learning innovation and the use of technology are online lecture incentives, online practicum grants, and MOOC grants.

Some examples of innovation are: Virtual Auditorium; iProctor (Virtual Proctoring with AI); iAssessment (Smart Assessment System); iMmersits (Immersive-Based Learning System); iCar (Intelligent Autonomous Car); iBoat (Intelligent Autonomous Bot)

Project Outcomes

Nearly 100% of ITS faculty have been implementing blended learning since 2020.

Almost all ITS faculty members are proficient in operating digital learning hardware, including Moodle's features, particularly assignment, quiz, and interactive video H5P.

Augmented Reality (AR) and Virtual reality (VR) technologies are being incorporated into labwork activities at ITS, greatly enhancing comprehension and supporting student learning outcomes, particularly in technical subjects.

The ITS MOOC (learning.its.ac.id) has provided almost 400 free courses, serving thousands of students who can access education from ITS for free, contributing to the equalisation of education.

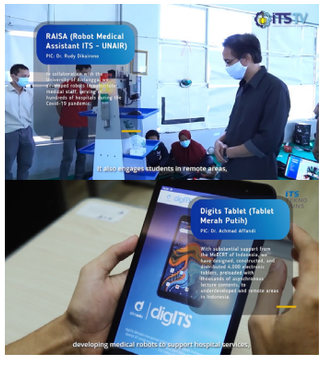
The ITS-developed DIGITS tablets are used by students in various underserved regions of Indonesia, promoting equal educational quality.

Impact and Sustainability

The project has addressed several key challenges in education, including:

- **Accessibility:** The availability of online resources and simulations ensures that students, regardless of their physical location, can access and engage with educational materials effectively.
- **Practical Learning:** Innovations like laboratory simulators and VR labs enable students to gain hands-on experience even when physical lab attendance is restricted.
- **Student Engagement:** Interactive tools and platforms enhance student engagement and participation in remote learning environments.
- **Quality Assurance:** These innovations support consistently delivering high-quality education, aligning with critical learning objectives and outcomes.
- **Regional Educational Equity:** From 2020 to the present, ITS has opened access to its learning content via free MOOCs and collaborated with the Ministry of Education on various technology-based educational activities to support regional educational equity.

Overall, the project has revolutionised the educational landscape at ITS, enhancing the quality of education and ensuring equitable access for all students, even in the face of circumstances such as the COVID-19 pandemic.

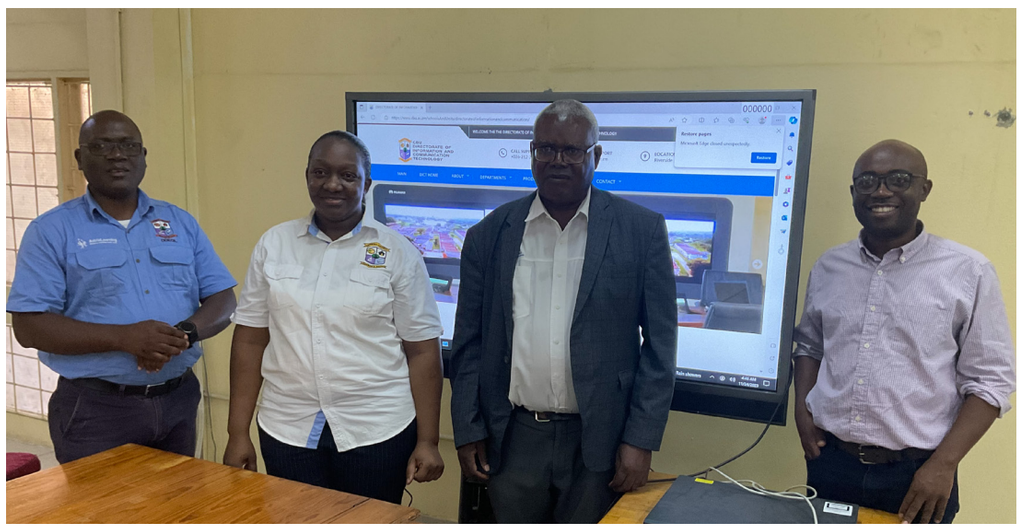


Copperbelt University: **Digital Teaching Resource Building and Application**

Project: Digitalisation Initiative: Digital Teaching Resource Building and Application
Organisation: Copperbelt University
Country: Zambia
The jury's comment: The initiatives involving digital infrastructure installation, Moodle integration into the in-house developed Student Information System (SIS), and Learning Management System (LMS) deployment design presented a strong case for the university's efforts in digital transformation.

Project Background

The Copperbelt University Digitalisation Initiative builds on the national imperative to utilise digital technologies to transform the economy. *The Eight National Development Plan 2022-2026* pursues digital transformation and innovation facilitated by Information and Communication Technologies (ICTs) and science and technology for job creation. In the wake of the COVID-19 pandemic, the university more vigorously pursued integrating digital technologies to provide for virtual learning. The digitalisation strategy required deliberate efforts to install digital infrastructure in classrooms, adopt a blended learning policy, and ensure student learning support and a Learning Management System (LMS).



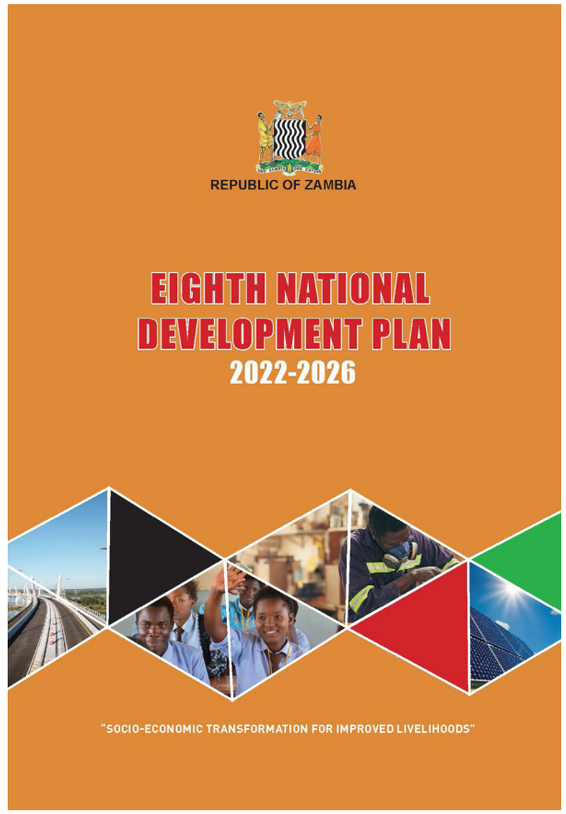
Group Photo the CBU Team

Project Objectives

This project seeks recognition of the endeavours to transform the university into a dual-mode institution. As part of the university's digitalisation strategy, it aims to link its satellite campuses nationwide. The Copperbelt University adopted digital transformation as the means through which teaching, learning, and research experience for both students and staff could be improved.

The objectives of the initiative can be summed up as:

- Improve the use of digital technologies in teaching, learning, and research.
- Enhance space for innovation and flexibility in teaching and learning.
- Improve management of learning progress.
- Increase flexibility and improve remote access to university courses.
- Meet the needs of students and improve their employability competencies.

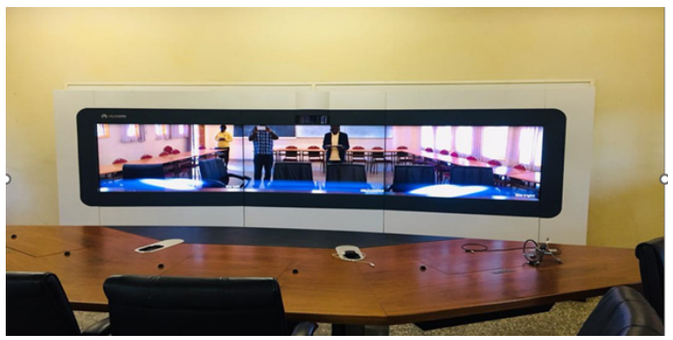


The Eight National Development Plan (2022-2026) of Zambia

Innovative Design

The project's innovation has provided the technologies and applications to enable blended teaching and learning and manage learning progression. Students and staff can make virtual presentations and thus demonstrate the digital skills expected to develop and upload materials and interrogate issues.

- **Installation of digital infrastructure.** Video conferencing facilities and web conferencing tools like MS Teams, Zoom, and Google Meet are used. In addition, the university has also installed interactive screens and overhead projector systems in various classrooms.



Installed Video Conference Facility

© Copperbelt University

- **Integrating Moodle into an in-house developed Student Information System (SIS).** Moodle was adopted and implemented to provide a platform for delivering online and blended learning courses and tools for collaboration and assessments.

- **LMS Deployment Design.** An innovative design adopted in the implementation of Moodle allowed for integration with the SIS. The integration is seamless and allows for student data, such as enrollment information and lecturer course assignment data, to be automatically synchronised between the two systems.

Project Outcomes

The project has provided the technologies and applications to enable blended teaching and learning and manage learning progression. It has installed video conferencing facilities for satellite campuses to support learning at a distance. This enabled interface block-teaching (face-to-face) and online learning. This has solved the problem of lack of flexibility in traditional face-to-face learning and has allowed students to access course material and lectures when not on the main campus.

Concerning online learning support, the university has adopted Moodle LMS and integrated it into the in-house developed student portal. The LMS has solved the problem of keeping registers and continuous assessment records. It has solved the problem of fear of technology by building the confidence and capacity of both students and staff, increasing the range of their digital competencies.

Throughout the year, seminars are conducted to build digital skills and capacity to teach and learn with installed or adopted technologies, including Moodle. The following are the accomplishments:

- Reaching students in far-flung places who would otherwise be excluded from higher education.

- Curriculum adaptation and pedagogical innovation and flexibility in the mode of delivery.

- Use of technology and LMS to support monitoring of progression.

- Realising the attainment of digital competencies needed for employability.

> “The project has solved the problem of fear of technology by building the confidence and capacity of both students and staff, increasing the range of their digital competencies.”

Impact and Sustainability

The project has focused on transforming the University's core academic activities and processes by improving student engagement and boosting enrolment, optimising learning, teaching, administrative, and research processes, and enhancing the digital skills and job prospects of students, as well as increasing the productivity and job satisfaction of academic and administrative staff. The long-term impacts are the following:

- **Realising Administrative Efficiency:** upgrading server infrastructure will allow for required system integration so that the library system can be integrated with the student information system, which would, in turn, reduce manual tasks, minimise errors, and improve efficiency and effectiveness.

- **Enhanced Research and Innovation:** upgraded server machines will be able to host suitable research tools, grow digital resources and databases, and provide optimal storage and required collaboration for research activities.

> “The project has provided technologies and applications to enable blended teaching and learning. Empowering students with digital literacy skills will enhance their employability and the socioeconomic development of local communities.”

- **Preservation and Protection of Resources:** upgraded servers with enhanced backup and storage capabilities will safeguard valuable digital collections, research data, and administrative records against loss or damage, ensuring their long-term availability and accessibility.

- **Social Impact and Digital Inclusion:** the university needs to bridge the digital divide by providing equitable access to modern ICT resources. Empowering students with digital literacy skills will enhance their employability and the socioeconomic development of local communities.


Installed Overhead Projector and Interactive White Board

Cadi Ayyad University: **Improving Professional Development of Teachers and Blended Teaching Competencies**

Project: Professional Development of Teachers at Cadi Ayyad University - Improving Blended Teaching Competencies
Organisation: Cadi Ayyad University (UCA)
Country: Morocco
The jury's comment: This training was developed to meet the imperative of quality of teaching. It aims to support changes in the Moroccan educational system that require capacity building, such as the development of appropriate tools and the construction of appropriate teaching and learning systems.

© Cadi Ayyad University

Prof. Belaid BOUGADIR

President of Cadi Ayyad University, Scientific Supervisor of the Certified Training in University Pedagogy and Digital Pedagogy

Prof. Bouchra LEBZAR

Director of the Training and Certification Center at Cadi Ayyad University, Responsible for the Certified Training in University Pedagogy, Coordinator of the Micro-Certification Programme

Prof. Said MACHWATE

Administrator at the Pedagogical Innovation Center of Cadi Ayyad University, Animator and Responsible for Media Coverage

Project Background

Regarding the Education 2030 Agenda for the achievement of the Sustainable Development Goals (SDGs), in particular SDG 4, 'Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all', Continuing Education (CE) is seen as one of the powerful factors for improving public policies on employment and skills management.

In 2020, the sudden transition to l'Enseignement à Distance (EAD) led teachers to adapt their teaching methods. However, some teachers encountered difficulties in adapting content, and choosing and making optimal use of remote conferencing services and educational platforms made available to them by the university. Indeed, to strengthen these new skills, the Center of Lifelong Learning and Certification (CFCC) of Cadi Ayyad University (UCA) launched a certificate for the benefit of teachers in order to capitalise on the acquired knowledge of this period by promoting peer learning.

The Training Project of Center of Lifelong Learning and Certification

Project Objectives

The main objective of the training is the adoption of new concepts and tools for learning, teaching, and qualification in the field of digital pedagogy. This training has been designed to enable teachers to effectively integrate ICT competency into their educational environment and to acquire relevant knowledge, tools, resources and technological applications, thereby actively contributing to the improvement of blended learning and teaching quality.

The training programme encompasses a comprehensive array of skills essential for modern educators. Participants will gain proficiency in adopting new learning and teaching concepts and acquire educational platform qualifications. Moreover, they will acquire a recognised qualification in educational platforms. Through hands-on experience, trainees will learn to script and produce instructional videos and present theories visually, improving teachers' audio-visual production skills in educational scenarios. Furthermore, the programme equips educators with the expertise to support students gain practical ICT skills and assess and design pedagogical tools.

Innovative Design

The programme consists of five modules aimed at strengthening teachers' capacity by increasing their technological and pedagogical expertise, based on UCA's rich experience in digital learning and its professional development programme "Pedagogy Academic", including "Design and Production of Educational Videos", "Designing A Manage Online Course", "Personal Educational Innovation Project", "Support and Tutoring", and "Assessment Methods".

Collaboration and Sharing: UCA and the International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI) jointly developed a training project to track the digital competency of teachers. The first co-developed module, "Design and Production of Educational Videos", was designed, produced and implemented by UCA, while UNESCO-ICHEI provided financial and technical support to the project,

" The first co-developed module "Design and Production of Educational Videos" by UCA and UNESCO-ICHEI

11 French-speaking African countries participated in IIOE training

organised the participation of International Institute of Online Education (IIOE) partner HEIs in the training, and monitored and evaluated the project.

Learner-centred Design: The training was based on the blended-learning model in a Small Private Online Courses (SPOC) form. Synchronous sessions were organised to address needs requiring direct interaction with the teacher to help learners acquire the skills expected from this training. Through this project, learners can reflect on their teaching practices, raise awareness of the benefits of blended and hybrid teaching, and promote exchanges and sharing of knowledge between teaching personnel.

Project Outcomes

From September to October 2022, 100 teachers from 11 French-speaking African countries participated in the training via the IIOE platform. Among these participants, 33 teachers have completed the training programme via IIOE and received a "Certificate of Fundamental Competency in Blended Teaching" issued jointly by UNESCO-ICHEI and UCA. Gaston Berger University (Senegal) and the Virtual University of Senegal selected their teachers to participate in the training, while the Virtual University of Côte d'Ivoire coordinated the participation of teachers from six public HEIs across the countries. All certified teachers produced PPT slides and videos in their respective disciplines. Fifty courses were produced and posted online. The training materials developed (videos, PPT slides, quizzes, recordings of synchronous sessions) are available on the UCA platform.

Impact and Sustainability

- Learners' self-assessments showed significant improvement in both awareness and competencies. The training enabled them to develop new skills and contribute to the development of quality online resources.
- The project raised awareness of the benefits of mixing online teaching and face-to-face teaching, as well as synchronous and asynchronous sessions.
- UCA has shared its online educational resources and practical experience with other institutions. In addition, an online community of teacher trainees was created and maintained for the exchange of experience and mutual learning in the field of online/blended pedagogy.
- Regarding the partnership, UCA and UNESCO-ICHEI are currently in the process of co-constructing other modules on digital pedagogical skills for a broader target of African teachers.

> "The project is conducive to improving teachers' digital competencies and teaching quality."

University of Sharjah: **Empowering Education Inclusivity through Hybrid Learning**

Project: Empowering Education Inclusivity: The University of Sharjah's Hybrid Learning Success
Organisation: University of Sharjah
Country: United Arab Emirates
The jury's comment: The model establishes a dynamic assessment and evaluation programme containing regular summative and formative assessments for each course, which other universities can learn beyond the pandemic.

Dr. Hussein M Elmehdi

Dean of Academic Support Services Team Leader

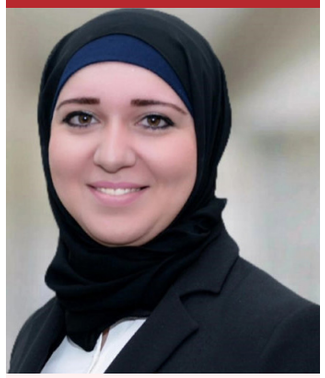
Prof. Maher Oma

Director of Institute of Leadership in Higher Education

Ms. Afra Saif Altuniji

Head of Curriculum, Academic Scheduling, and Learning Space Management

Ms. Anissa Bettayeb



Head of Academic Computing Section, ITC

Ms. Rawan Yasin

Head of Programmes at the Abdulla Al Ghurair Foundation

Project Background

Moving towards a proficient hybrid education model presents challenges at an institution as large as the University of Sharjah, with over 700 faculty and nearly 20,000 students.

Challenges include the following aspects:

- Ensuring a deep understanding of hybrid learning among students and faculty,
- Providing practical professional training,
- Accommodating a wide range of subjects and courses,
- Expanding the model to cover all programmes,
- Adhering to rules and policies,
- Updating course content and multimedia resources.

Leveraging its achievements in remote learning during the COVID-19 pandemic, capitalising on substantial investments in

infrastructure, training, and workforce, His Highness Sheikh Dr. Sultan bin Muhammad Al Qasimi, the Ruler of Sharjah and Founder of the University of Sharjah, announced a groundbreaking project to implement wide-scale hybrid education delivery. The University of Sharjah is the first institution in the United Arab Emirates (UAE) and the Gulf Cooperation Council (GCC) Region to officially institute the hybrid learning approach across all academic programmes (over 120 in 15 colleges). To ensure scalability and overcome the challenges presented by the large number of instructors (over 700 instructors) who needed to be trained on the hybrid approach, the university implemented the “Hyper Champions: Adoption and Diffusion” model.

In this model, a group of instructors were selected based on their subject (college), technical skills and enthusiasm and were given intensive training by partners at Abdulla Al Ghurair Foundation (AGF) through the University Consortium for Quality Online Learning (UCQOL). Upon completion of the intensive training the champions were assigned as peer-tutors to assist in the next phases to train more instructors.

Project Objectives

The initiative aligns with the UAE national agenda of offering

a "First-Rate Education System" that is inclusive and accessible. It builds on the work of UCQOL. It aims to accommodate students with exceptional circumstances who cannot attend a publicly-funded facility for reasons like employment, medical issues, motherhood, or special assignments. The strategic goal is to create an inclusive, innovative and resilient learning environment at the University of Sharjah. By partnering with AGF, as a part of the UCQOL team, the initiative will maintain the consistently high quality of learning, as evidenced in the earlier design sprints for general elective courses. This strategy also fosters a culture of continuous learning, collaboration, and innovation, contributing to the long-term success of hybrid learning initiatives at the University of Sharjah.

Innovative Design

- **Providing Technical and Pedagogical Training.** Professional development training activities were offered throughout the year to ensure all instructor readiness.

- **Securing the Needed Systems, Equipment and Devices.** This includes a Learning Management System (LMS), recording devices, interactive screens, laptops, and integrated display screens.

- **Establishing *a Post-graduate Certificate for Technology-Enhanced Learning.*** The certificate will consist of four graduate-level courses developed in collaboration with UCQOL and led by the Leadership Institute in Higher Education.

- **Enhancing Resource and Support Center.** Create an online centralised facility that can access training materials, recorded webinars, tech support, and other resources. Establish a help desk or support centre to provide technical and pedagogical support.

- **Evaluation and Feedback.** Develop mechanisms for evaluating the effectiveness of the training programme through assessments, surveys, and feedback sessions. Use the evaluation data to continuously improve the training programme and policies and adapt it to the evolving needs of faculty.

- **Enhanced Infrastructure.** Create four one-button studios

across the campus to support flipped classrooms. The studios will create video/audio elements that can be immediately uploaded to the Blackboard LMS.

Project Outcomes

The initiative is well-received by students and their parents as it promotes education inclusivity and access and improves the quality of education.

- **Student-Centred Learning:** Using lessons learned during COVID-19, courses are redesigned using interactive learning tools and evidence-based pedagogy to enhance student-centred learning.

- **Empowering Educators:** The initial faculty team was trained on design and production sprints and reimagined their courses to deliver engaging, high-quality content that adapted to the diverse needs of their students.

- **Curriculum Resilience:** This project's flexible, adaptable curriculum model is at the heart. Implementing an accurate Hyflex model to meet all needs that could arise (at any time during any circumstance) requires faculty to fundamentally incorporate best practices like Universal Design for Learning.

- **Technology Integration:** The project focuses on creating a robust IT infrastructure, ensuring seamless access to digital resources and tools with ongoing training is available for both students and educators.

- **Expanding across Faculty Education Ecosystem:** Collaborating and sharing with the Ministry of Education, Commission for Academic Accreditation (CAA), AGF and nine of the leading universities across the UAE as part of the UCQOL network ensures support and collaboration that benefits not only the university but the wider UAE community.

Impact and Sustainability

The university is among the leading institutions in successfully implementing remote learning during COVID-19, ensuring the continuity of education operations. The experience can be applied in the post-COVID-19 era. This initiative has top-down, cross-institutional support and is a foundation for establishing a sustainable hybrid learning model at the university. It will provide a blueprint for future growth, fostering a culture of continuous improvement and innovation in teaching and learning methodologies. It will impact the lives of 20,000 students, now and in the future. It aligns with the broader strategy of the University of Sharjah and the UAE national agenda, embodying the commitment to continuous improvement and innovation in teaching and learning methodologies.

This new model also brings numerous opportunities, such as fostering inclusivity, reducing student attrition, enhancing the overall student experience, optimising resource utilisation, updating curriculum and content, improving assessment methods, addressing academic integrity issues, and strengthening the recruitment and enrollment processes to boost the university's reputation.

Overall, this project strengthens the institution's capacity for hybrid learning and builds a foundation for long-term educational excellence and adaptability. It underscores the University of Sharjah's commitment to delivering high-quality education, guaranteeing the project's enduring impact.

MUST: **Blended Learning Capacity Building for STEM Teachers through IIOE Pilot Project in Mongolia**

Project: IIOE Pilot Project in Mongolia: Blended Learning Capacity Building for STEM Teachers
Organisation: Mongolian University of Science and Technology (MUST)
Country: Mongolia
The jury's comment: The pilot project empowers Mongolian university teachers with competency and skills in blended learning and supports the implementation of related policies, facilitating the digital transformation of Mongolian higher education.

Assoc. Prof. Tserenchimed Purevsuren

National Blended learning Master Teacher and Deputy Secretary General at IIOE National Centre in Mongolia, Project Manager

Mr. Radnaa Naidandorj

Instructional design expert at MUST-OEC, Project Consultant

Prof. Dendev Badarch

President of National University of Mongolia and MUST-OEC Consultant, Project Consultant

Prof. Ganbat Danaa

Director of MUST-OEC, Project Coordinator

Assoc. Prof. Tsooj Shambaljamts

Head of Department of Technical Mechanics, National Blended learning Master Teacher and Research Team Member

Assoc. Prof. Ariunbolor Davaa

Head of Teaching and Learning laboratory at MUST-OEC, Pedagogical Expert

Project Background

As a developing country, Mongolia faces a number of challenges and obstacles to educational digital transformation, such as ensuring the sustainability of ICT Infrastructure, limited resources of digital content and Open Educational Resources (OERs), early development of the MOOC concept, and internet connection problems in rural areas. A recent policy review by UNESCO identified two main issues in Mongolian Higher Education related to teachers' professional development that hinder digital transformation. These are the need to mainstream ICT competency standards for teachers and the limited opportunities for teachers to find advanced professional development training.

To identify the challenges front-line teachers face in implementing blended learning, the Open Education Center of Mongolian University of Science and Technology (MUST-OEC) and the International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI) jointly conducted a study

Blended Learning Practices

among teachers from MUST. The study revealed that the main challenges are:

- Lack of benchmarks and guidelines on blended learning,
- Lack of systematic training on blended learning, especially pedagogy,
- Lack of effective support for teachers in content development,
- Lack of exemplary blended learning courses as references, especially for course evaluation.

Therefore, based on international trends in online and blended learning and local need analysis, MUST-OEC, as International Institute of Online Education (IIOE) National Centre in Mongolia, implemented this project in collaboration with UNESCO-ICHEI in 2022.

Project Objectives

The overall purpose of the pilot project is to empower Mongolian university teachers with competency and skills in blended learning and support the implementation of related policies so as to facilitate the digital transformation of Mongolian higher education.

There are several sub-objectives:

- Carry out a training programme on blended learning to prepare national-level master teachers.
- Conduct university-wide blended learning practices at six national universities.
- Develop blended learning assessment tools.
- Develop guidelines for blended learning course development.
- Disseminate project outcomes at the institutional level as well as the national level.

Innovative Design

MUST-OEC led the project through the full cycle of initiating, planning, executing, and closing. At the same time, UNESCO-ICHEI acted as an external observer and supporting body that provided funding opportunities and expert consulting.

The project was designed in four main phases, along with specific vital deliverables.

- **Project Preparation (Phase 1):** A number of activities, such as project need analysis, development of preliminary proposal and action plan, international expert meeting, and preparation of the training contents, were planned to be implemented in Phase 1.

National Seminar on Blended Learning Launched in Mongolia

- **Capacity Building (Phase 2):** The master teacher selection process, localisation of the training materials, organising master teacher training, cascading training at six national universities, and local workshops were planned at this stage.
- **University-wide Practice (Phase 3):** The core project activity was the development of two courses with a blended learning approach as a best example or benchmark. A nationwide workshop to disseminate the pilot project and its outcome was planned to be carried out in cooperation with the National Institute of Teacher Profesional Development.
- **Tool Development (Phase 4):** The main tasks were the development of the blended learning course design guideline (handbook) and the course design evaluation tool that can further accelerate blended learning development at each higher education institution (HEI).

Project Outcomes

The developed blended learning guidebook (handbook), open textbook, and course design evaluation tools are currently fundamental local benchmarks for transforming courses into online and blended formats. Blended Course Design Guidelines for Learner Engagement online open book was under development process.

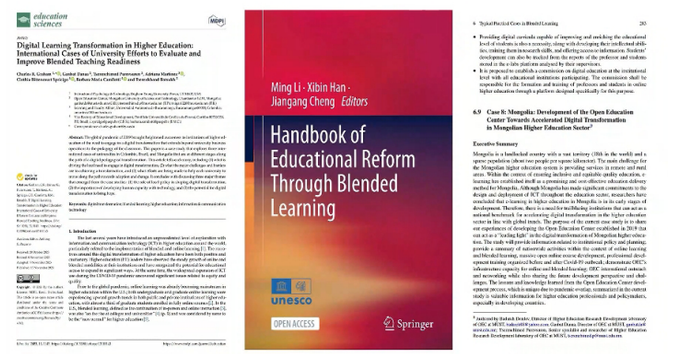
In total, 65 master teachers on blended learning were prepared nationwide. About 450 teachers (6.4% of total teachers) participated in a series of pilot project training. MUST officially include "Blended learning Methodology" graduate courses in the Educational Management master course and pre-service teacher training programme. Master teachers are important human resources for developing online and blended learning in Mongolia's higher education and are valuable drivers for digital transformation.

The research team, including international experts, is processing two scientific publications, namely "*Digital Learning Transformation in Higher Education International Cases of University Efforts to Evaluate and Improve Blended Teaching Readiness*" and "*Assessment of the Blended Teaching Readiness in Mongolian higher education teachers*".

Impact and Sustainability

This project was one of the first initiatives on capacity building in the Mongolian higher education sector. The blended learning master teacher training, as well as cascading training, were planned and implemented in an innovative way. It was implemented as a pure reflection of the classic blended learning format covering overall course design and onsite and online assessment so that teachers can gain more practical insight.

- The project could raise awareness of blended learning in the Mongolian higher education sector by reaching top-level HEIs, National Institutions of Teacher Profession Development, and the General Authority for Education in Mongolia.
- The project is stimulating HEIs, especially MUST, to rethink regulatory mechanisms and policies of online and blended learning.
- The project could empower Mongolian university teachers with competency and skills in blended learning and facilitate the digital transformation of Mongolian higher education.



Published Domestic and International Research Articles on Blended Learning

Ahmadu Bello University: **Empowering Institutional Policy Implementation for Digital Teaching and Learning in Nigeria**

Project: Empowering Institutional Policy Implementation for Digital Teaching and Learning in Nigeria
Organisation: Ahmadu Bello University (ABU)
Country: Nigeria
The jury's comment: The Teaching and Learning Policy (TLP) Implementation Plan reflects the university's commitment to creating an enabling environment for the adoption of Online and Blended Teaching and Learning (OBTL), ensuring the university takes its rightful place among leading universities in producing competent graduates that shall facilitate solving the myriad problems in the society.

Prof. Muhammed Bashir Mu'azu

Professor at Department of Computer Engineering, Director of IIOE Nigeria National Centre

Prof. Emmanuel Adewale Adedokun

Professor at Department of Computer Engineering

Dr. Ahmed Abubakar

Director of Academic Planning Monitoring and Evaluation Team Leader

PhD. Zaharuddeen Haruna

Technical Leader of Project

Dr. Basira Yahaya

Head of Project Administration and Advocacy

Mr. Muhammad Lawal Abubakar

Monitoring and Evaluation Team Member

Project Background

In the developing world, the adoption of Online and Blended Teaching and Learning (OBTL) by Higher Education Institutions (HEIs) is facing some challenges, including the lack of institutional organisation structure, policies and digital infrastructure, and limited capacity and experience to conduct OBTL.

With the support from the International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI), Ahmadu Bello University (ABU) is committed to leading HEIs in Nigeria and other West African Countries in transforming education through the use of modern and innovative technologies. On September 28, 2022, UNESCO-ICHEI and ABU officially launched the International Institute of Online Education (IIOE) Nigeria National Centre Pilot Project on Empowering Institutional Policy Implementation for Digital Teaching and Learning in Nigeria.

ABU has a Teaching and Learning Policy (TLP) which enshrines the distinctive approaches adopted to ensure the

Training of Trainers (TOT) Workshop of IIOE Nigeria National Centre

highest possible achievement and development of each individual student. ABU intends to achieve this by utilising modern information and communication technologies for curriculum development, planning, teaching and learning, leadership, and assessment through the acceptable use of technology and IT security.

Project Objectives

This project is aimed to support the implementation of institutional policies for digital teaching and learning in Nigerian HEIs, and empower IIOE Nigeria National Center as a national hub driving the digital transformation of higher education teaching and learning.

The specific project objectives are as follows:

- Enhance teachers' digital teaching and learning capacities and improve the quality of online courses.
- Support ABU in implementing its TLP and facilitate coordination among departments and units to promote digital teaching and learning.
- Design, Development, and Production of at least three quality digital contents.

Innovative Design

Collaboration and Sharing: ABU will organise the member HEIs of IIOE Nigeria National Centre to fully engage in the project implementation, apply the project outcomes to innovative teaching practices, and support the digital transformation of Nigerian higher education. UNESCO-ICHEI will provide financial, technical and professional support for the project's implementation, and facilitate the sharing of project outcomes and promising practices within IIOE's global network.

Key Activities and Milestones

- **Training of Trainers (TOT) sessions** on online course design, development and production for teachers from Engineering/ Computing, Medical/Bio-Sciences, and Humanities/Social Sciences of IIOE Nigeria National Centre's partner HEIs. The ToT workshops commenced on 9 November 2022 with 55 participants (36 males and 19 females) drawn from ABU and six other partnered institutions.
- To develop an implementation plan for ABU's TLP, the **Institutional Policy Workshop** took place on 12 November 2022 with 78 participants (74 males and 4 females). Four topics were selected for the design and production of quality online digital courses, including PowerPoint, voice-over-PowerPoint and videos. Other disciplines and partnered institutions are also set to cascade the training to their institutions.

Project Outcomes

- Relevant stakeholders from ABU and other partnered universities actively participated in the public lecture.
- Over fifty teachers from ABU and partnered universities were trained on how to design, develop and produce online content.
- A clear rubric has been developed, which can be used to assess the online content developed.
- Four quality digital/online content have been developed by different disciplines.
- A comprehensive implementation plan for the TLP has been developed by ABU.

Group Photo at the TLP Workshop

Impact and Sustainability

Participants are anticipated to disseminate the training to their respective institutions, which are required to produce online content under the guidance of ABU. ABU will extend support to all partner institutions in the development of their TLP. Additionally, ABU is tasked with initiating the enforcement of TLP, alongside conducting extensive training sessions on online content development both within ABU and across other participating institutions.

Through participation in the programme, teaching personnel have had the opportunity to up-skill and build capacity in online content development, benefiting both their institutions and the wider public through academic content-sharing platforms like SkillShare and YouTube. Moreover, participating institutions stand to gain from the trained personnel, who can facilitate large-scale training initiatives aimed at implementing digital transformation policies such as Online and Blended Teaching and Learning (OBTL). This not only enhances the institution's educational offerings but also ensures alignment with modern pedagogical trends. Additionally, institutions have the opportunity to improve their facilities, further enhancing their capacity to deliver high-quality education in the digital age.

The Role of IIOE Nigeria National Centre

Develop a localised implementation plan of the project based on the project framework.

Organise ToT sessions on online course design, development and production, institutional workshop to develop implementation plan for ABU TLP, and teachers' digital literacy enhancement programmes.

Organise project launch meeting.

Ensure the timely delivery of up-to-standard expected deliverables as outlined in the localised implementation plan. Monitor and evaluate the project following the monitoring and evaluation framework outlined in the project framework.

03

Digits and Tales

- Deep Insights of Higher Education Leaders at 2023 IIOE Global Partners Summit
- Key Data on the Integration of AI into Higher Education

Deep Insights of Higher Education Leaders at **2023 IIOE Global Partners Summit**

From December 7 to 9, 2023, the "Transforming Higher Education in the Age of AI" International Institute of Online Education (IIOE) Global Partners Summit was held at Southern University of Science and Technology (SUSTech), which was co-organised by UNESCO Institute for Information Technologies in Education (UNESCO IITE), International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI), SUSTech, and 2023 IIOE Rotating Presidency Unit Universiti Putra Malaysia (UPM), under the supervision of Secretariat of the National Commission of the People's Republic of China for UNESCO. The summit had approximately 200 attendees from 28 countries from Asia, Africa, Latin America, Middle East, and Europe, including Ministry of Education officials, presidents and vice chancellors of HEIs, international experts, and other high-level leaders in higher education.

Deep Integration of Artificial Intelligence (AI) into Higher Education

TANG Qian,Former Assistant Director-General for Education, UNESCO

"The rise of AI has fostered the development of global higher education. UNESCO is committed to addressing challenges of AI, providing a direction for the future integration of AI into higher education."

Dragan Gasevic, Distinguished Professor of Learning Analytics in the Faculty of Information Technology, Monash University, Australia

"We need to broaden our understanding of the use of AI, and how we can learn with, about and despite GenAI. AI is unlikely to go away and we need to lead to change in higher education."

Marat Rakhmatullaev, Professor of Tashkent University of Information Technologies; Team-leader of Uzbekistan Higher Education Reform Experts (HEREs), Uzbekistan

"Integration of efforts to create effective software and AI systems will ensure effective information support for learning, self-learning, and training processes. Smart classrooms are an important AI development tool for effective learning and knowledge dissemination."

Jaime Alberto Palma Mendoza, Assistant Professor at Department of Industrial and Systems Engineering, Tecnologico de Monterrey, Mexico

"Higher education institutions (HEIs) can explore the application of AI technologies in curriculum design, student internships and research projects and provide guidelines accordingly, leading to a deeper integration of AI into education."

Addressing the Ethical Risks of AI

ZHAN Tao, Director of UNESCO Institute for Information Technologies in Education (UNESCO IITE)

"UNESCO adopted the recommendations for the ethics of AI and the framework for using AI in higher education and educational research."

ZHU Zhiting, Emeritus Professor at East China Normal University; Doctoral Advisor in Educational Technology; Distinguished Consultant of UNESCO-ICHEI

"Change is the only constant in the world. In the AI era, the Large language model (LLM) is a new starting point rather than the culmination of exploration. It is crucial to construct an ethical framework for AI that fosters human-technology collaboration."

Mona Abdel-Aal Elzahry, Executive Director of Education Strategy Administration, Ain Shams University, Egypt

"The transformative potential of AI in higher education continues to evolve, thus it is crucial to embrace them thoughtfully, ensuring they align with educational goals, ethical considerations, and the well-being of students and educators."

Teacher Empowerment in the Age of AI

Paulina Pannen, Senior Expert, Indonesia Cyber Education Institute (ICE-I), Indonesia

"Teaching personnel play an important role and exert leadership in the digital transformation of higher education. AI can monitor students' learning progress and provide automated feedback in instruction, indicating the great potential to enhance teaching efficiency."

ZHAO Junjun, CEO of ZhiXueYun (Beijing) Technology Co.,Ltd

"Two key factors need to be considered for the successful application of AI technology. First, we should integrate AI capabilities with the knowledge and wisdom of teachers, making AI a collaborator rather than a competitor to educators. Second, it is essential to align AI technology with teaching objectives and processes to support different instructional scenarios."

The Leading Role of IIOE Rotating Presidency Unit in the IIOE Ecosystem

LIANG Jiansheng, Executive Deputy Director of UNESCO-ICHEI

"The IIOE Rotating Presidency Unit works closely with UNESCO-ICHEI and the IIOE Secretariat, provides strategical goals, guidance, and support for the IIOE development and digital transformation in higher education across sub-regions."

Ismi Arif Ismail, Deputy Vice-Chancellor (Academic and International), Universiti Putra Malaysia (UPM); 2023 IIOE Rotating Presidency Unit, Malaysia

"As the IIOE national centre in Malaysia, UPM has accumulated fruitful achievements in micro-certification and IIOE pilot projects. Thanks to the long-standing support of UNESCO-ICHEI, the outstanding leadership of IIOE ecosystem has realised the digital transformation and innovation of higher education in many developing countries."

Kabiru Bala, Vice-Chancellor, Ahmadu Bello University; 2024 IIOE Rotating Presidency Unit, Nigeria

"We look forward to deepening our collaboration with UNESCO-ICHEI in the future, supporting IIOE partner institutions in developing micro-certification programmes, inspiring more teaching personnel to continue their learning and professional development, and strategically growing the IIOE ecosystem."

Multilateral Cooperation for Global Educational Transformation

MA Yanjun, General Manager of Baidu AI Platform and Ecosystem; Co-Chair of Large AI Model Special Group of the National AI Standardisation General Working Group

"The university-industry collaboration facilitates the integration of AI into higher education. Enterprises should establish closer ties with educators, learners, and institutions to enhance the efficiency of teaching, research, administration, and management."

Chris Maiyaki, Acting Executive Secretary National Universities Commission, Nigeria

"In response to the growing digital divide and other uncertainties, innovative and sustainable partnerships among HEIs, governments, and enterprises will adapt effectively to social transformation and cultivate AI talents in the future."

Anasse Bouhlal, Programme Specialist (Higher Education and TVET), UNESCO Doha Office for GCC and Yemen

"The university-enterprise cooperation is really essential. HEIs without innovation will not sustain for long. HEIs and private sectors need to collaborate in terms of research, development and innovation, and such a partnership could create a win-win situation."

BI Xin, Chief Officer of Data; Director of Centre for Knowledge and Information, Xi'an Jiaotong-Liverpool University (XJTLU) , China

"As a member of the IIOE ecosystem, XJTLU actively responds to SDG4. By establishing the Learning Mall, XJTLU facilitates lifelong learning and empowers more educators and students through collaborative resource sharing, systems integration, and infrastructure development."

Highlights of 2023 IIOE Global Partners Summit

Announcement of 2024 IIOE Rotating Presidency Unit

Roundtable Discussion

Signing Ceremony of the Strategic Cooperation Agreement

Award Ceremony of the Pioneer Award

Award-winning Representatives

Group Photo of UNESCO-ICHEI Team

Group Photo of Institut Teknologi Sepuluh Nopember (ITS) Delegation

EdTech Enterprises' Exhibition

Key Data on The Integration of AI into Higher Education

Artificial Intelligence (AI) adoption is rapidly spreading across various industries, presenting both unprecedented opportunities and challenges for higher education. This data report aims to capture the current landscape of AI integration in higher education, encompassing the attitudes of institutions regarding AI, strategies and policies related to AI application, and the exploration of gender stereotypes within AI frameworks.

1. Opportunities and Challenges of AI Integration into Higher Education

2. Key Policy Areas for Responsible Development in AI

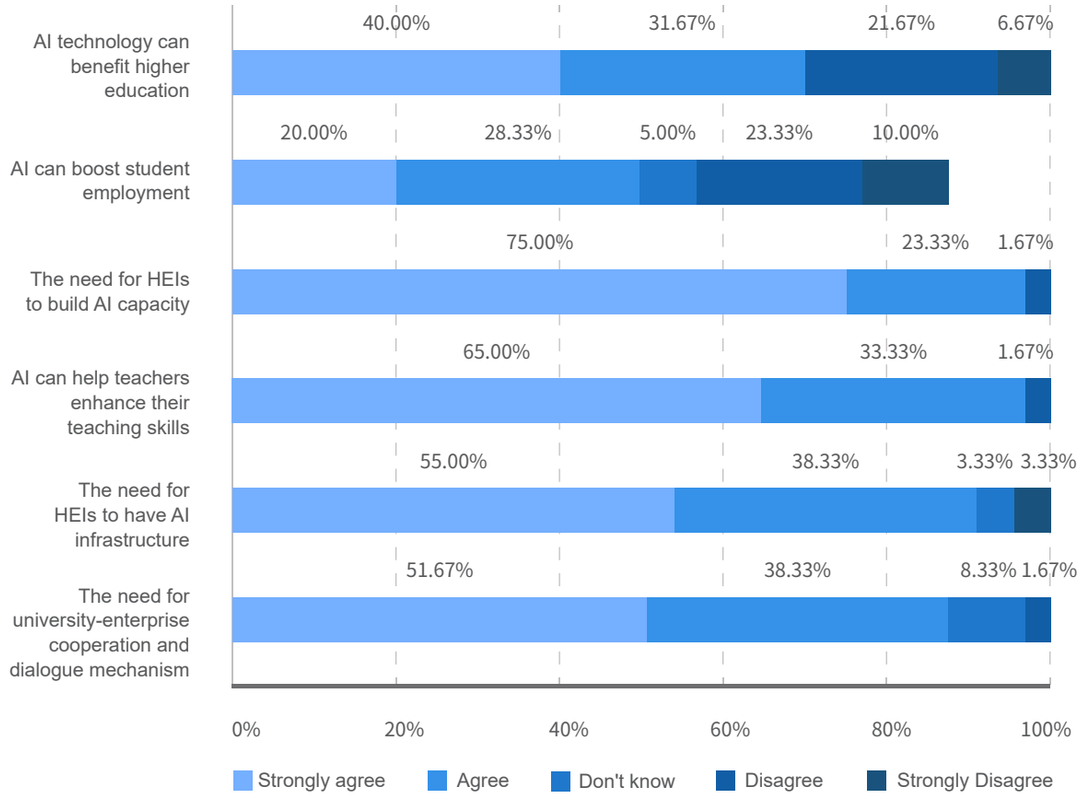
To better address AI ethical issues, UNESCO recommends 11 key areas for policy actions:

01 Ethical impact assessment	02 Ethical governance and stewardship	03 Data policy
04 Development and international cooperation	05 Environment and ecosystems	06 Gender
07 Culture	08 Education and research	09 Communication and information
10 Economy and labour	11 Health and social wellbeing	

Source: UNESCO(2023). *UNESCO's Recommendation on the Ethics of Artificial Intelligence: key facts.* Paris: UNESCO.

3. The Attitudes and Needs of IIOE Partner Institutions Towards AI Technology

In October 2023, the International Institute of Online Education (IIOE) conducted a survey for partner higher education institutions, which reached 21 countries with 60 institutional representatives.

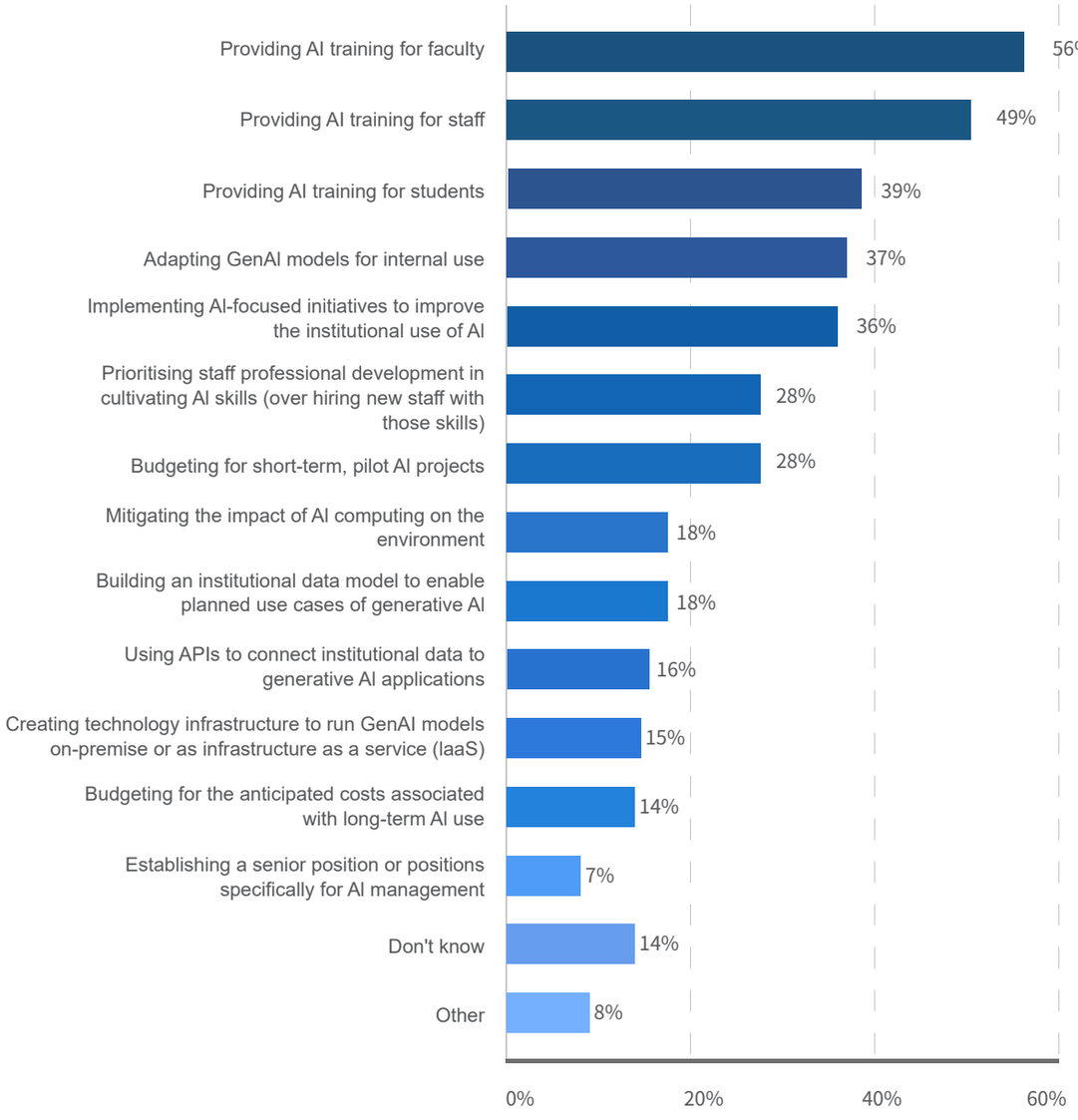


4. Future Goals of AI and Higher Education

5. AI Strategies for Higher Education Institutions (HEIs)

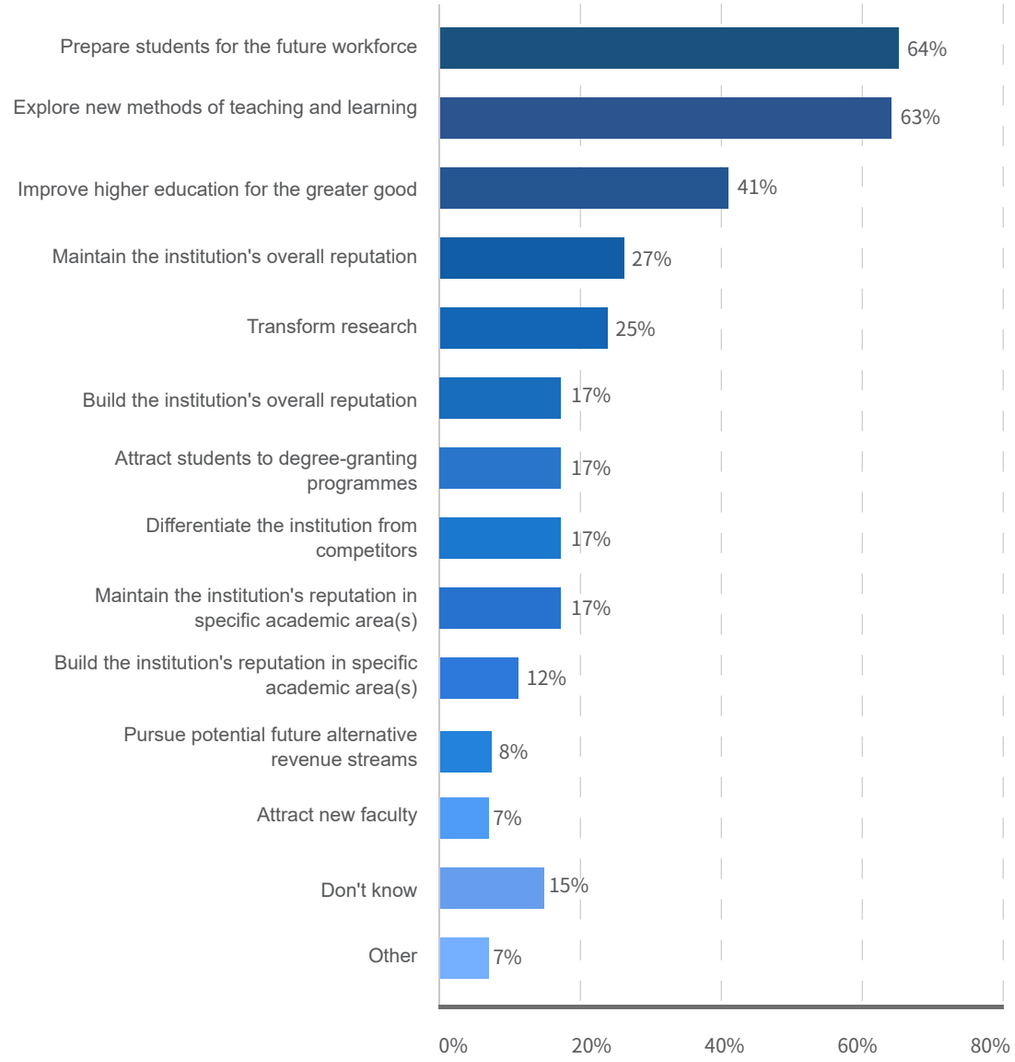
EDUCAUSE is a nonprofit association in the United States whose mission is "to advance higher education through the use of information technology". The *2024 EDUCAUSE AI Landscape Study* surveyed about 800 U.S. HEIs about their views on AI strategies.

Elements of AI-Related Strategy



The most common elements of AI-related strategy are training for faculty, staff, and students to learn new AI technology and skills. The least-selected items include establishing senior leadership positions (7%) and budgeting for anticipated long-term costs (14%), pointing to a lack of long-term planning and infrastructure.

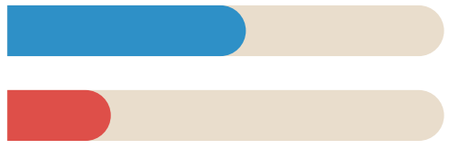
Primary Goals of AI-Related Strategic Planning



AI-related strategic planning goals and strategies are focused on supporting students' experiences, including preparing students for the workforce and exploring new teaching and learning methods (64% and 63%, respectively).

Source: EDUCAUSE (2024). 2024 EDUCAUSE AI Landscape Study. https://library.educause.edu/resources/2024/2/2024-educause-ai-landscape-study

6. AI Curriculum Development

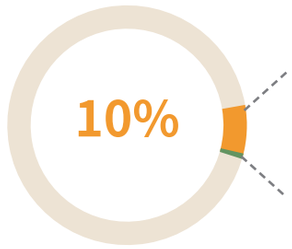


54% of countries surveyed have outlined AI skills they want to develop for the future,

21% of countries have curricula for AI.

Source: UNESCO. (2023). Global education monitoring report, 2023: technology in education: a tool on whose terms? Paris: UNESCO.
UNESCO. (2023). K-12 AI curricula: a mapping of government-endorsed AI curricula. Paris: UNESCO.

7. Policies and Formal Guidance on AI



450 schools and universities

A new UNESCO global survey of over 450 schools and universities found that fewer than 10% have developed institutional policies and/or formal guidance concerning the use of GenAI applications.

2 institutions

Only two institutions indicated that they had policies or guidance that constitute ‘a ban’ on GenAI applications such as ChatGPT.

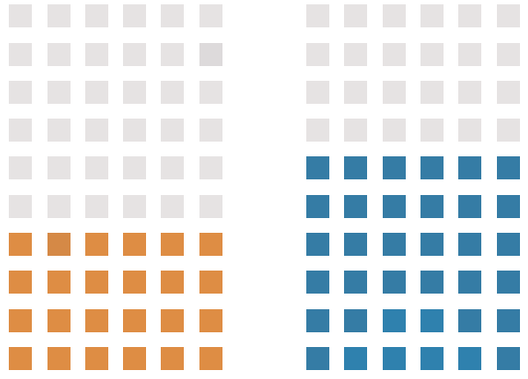
Source: UNESCO (2023). UNESCO survey: Less than 10% of schools and universities have formal guidance on AI. https://www.unesco.org/en/articles/unesco-survey-less-10-schools-and-universities-have-formal-guidance-ai

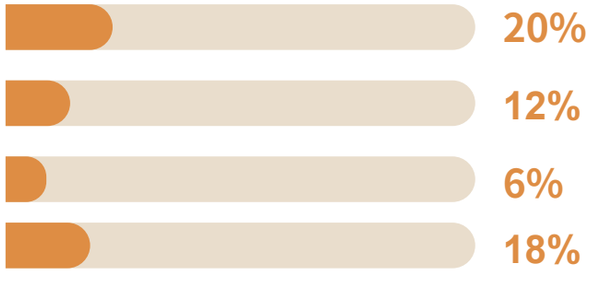
8. Gender Stereotypes in AI

Women were frequently associated with words like **“home”**, **“family”** and **“children”**, while male names were linked to **“business”**, **“executive”**, **“salary”**, and **“career”**.

Women were described as working in domestic roles far more often than men **four** times as often by large language models (LLMs).

20% more men than women received a Facebook ad for STEM careers.





20% women represent only 20% of employees in technical roles in major machine learning companies

12% of AI researchers

6% of professional software developers.

18% only 18% of authors at leading AI conferences are women and more than 80% of AI professors are men.

In the future, recruitment in companies and AI talent cultivation should focus on gender equality principles and increase job opportunities for women in AI industry and research.

Source: UNESCO, IRCAI (2024). Challenging systematic prejudices: an Investigation into Gender Bias in Large Language Models. Paris: UNESCO.
Lambrecht, A., & Tucker, C. E. (2019). Algorithmic bias? An empirical study into apparent gender-based discrimination in the display of STEM career ads. Management Science, 65(7), pp. 2966-81.