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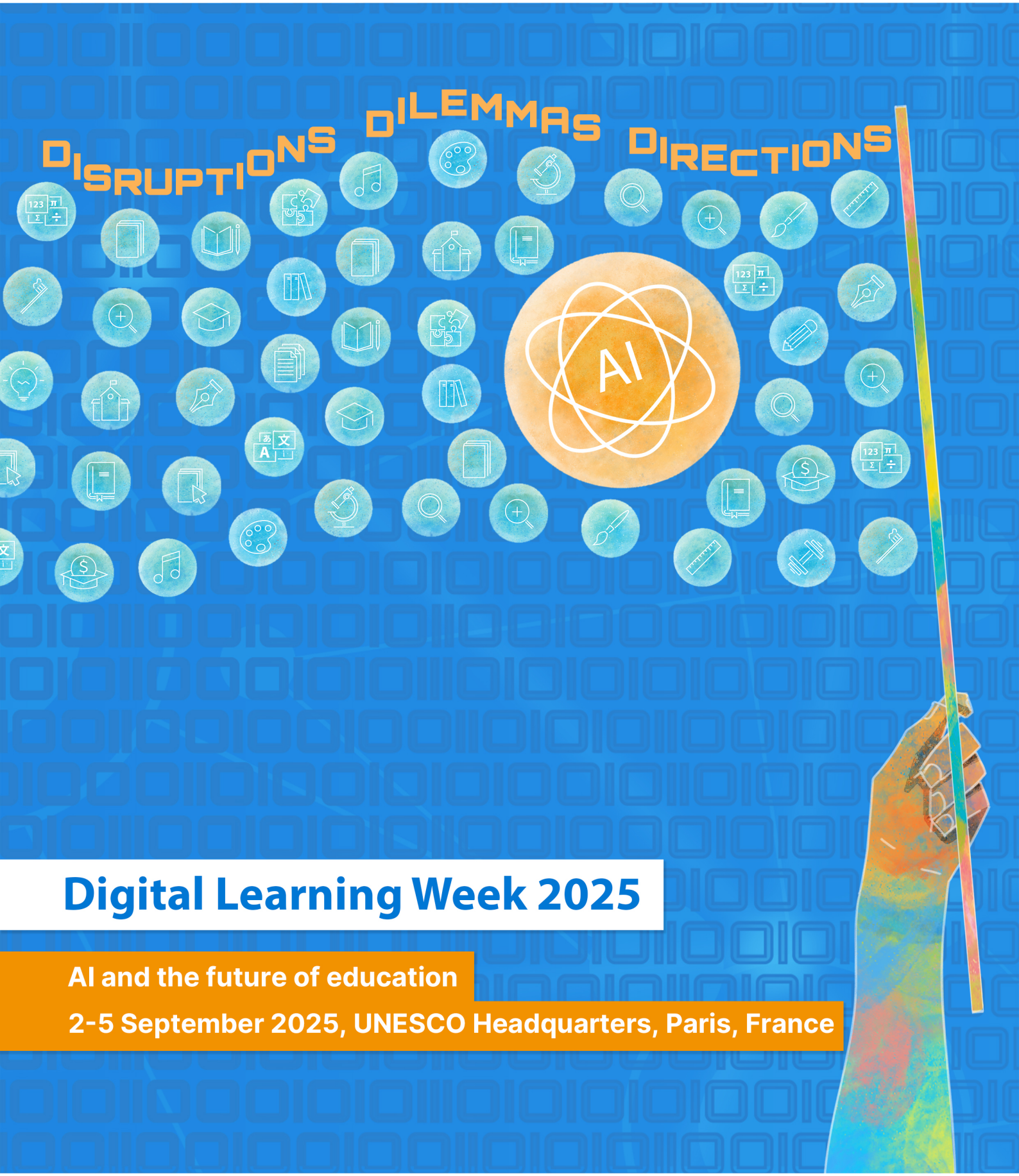

Digital Learning Week 2025

AI and the future of education

2-5 September 2025, UNESCO Headquarters, Paris, France

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Published in 2026 by the United Nations Educational, Scientific and Cultural Organization,
7, place de Fontenoy, 75352 Paris 07 SP, France

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Printed by UNESCO

Printed in France

ED/FLI-ICT/26/4

Acknowledgements

This report is a collaborative work produced through the collective efforts of the Section for Technology and AI in Education within the Future of Learning and Innovation Division of the Education Sector of UNESCO and valuable contributions of experts, rapporteurs and session moderators.

Under the leadership of Sobhi Tawil, Director of the Future of Learning and Innovation Division of UNESCO, and the guidance of Shafika Isaacs, Chief, and Michela Pagano, Project Officer, both from UNESCO's Section for Technology and AI in Education, Future of Learning and Innovation Division, the report was authored and designed by Jiwoo Rim, Sponsored Trainee in the Section.

Particular thanks is extended to Helen Crompton, Executive Director, Research Institute of Digital Innovation in Learning, Old Dominion University who contributed the opening reflection piece in this report as well as provided support to the session summaries as a rapporteur.

The following external experts contributed to the report as rapporteurs of the sessions or proofreaders of session notes: Daniel Burgos, Vice-rector for International Research, Universidad Internacional de La Rioja (UNIR), Spain and President and Rector, MIU City University Miami; Michael Chen, Senior Business Development Manager, Netdragon Websoft; Hannele Niemi, UNESCO Chairholder on Educational Ecosystems for Equity and Quality of Learning and Professor of Education and Research Director, University of Helsinki; Kaśka Porayska-Pomsta, Professor of Artificial Intelligence in Education, University College London; Merinda Owusu, Head of Corporate Social Responsibility, United Kingdom and Europe, Infosys; and Kelly Shiohira, Director, Global Science of Learning Education Network.

The report also benefited from the support provided by the following UNESCO colleagues during Digital Learning Week 2025: Katerina Ananiadou, Tomas Austin, Georges Bedrossian, Meagan Brooks, Erin Chemery, Anastasia Christodoulelis, Anna Cristina D'Addio, Luisa Ferrara, Laicia Gagnier, Elyse Gregory, Nora Helou, Kylee Hughes, Adelin Hulin, Daseul Ji, Lili Ji, Jihye Kang, Amanda Keane, Alina Kirillina, Shinyoung Lee, Daline Ly, Kate O'Mahony, Una Mcarthy-Fakhry, Florence Migeon, Mattia Olivari, Amir Piric, Hanitriniony Randria, Maria Renom, Ilja Riekki, Elise Rondin, Abdoulaye Salifou, Manuel Sanchez Masferrer, Clea Sanders, Taekyung Seo, Prateek Sibal, Eunice Smith, Clare Stark, Yannis Tränkner, Zeynep Varoglu, Paola Vivas, Mara Vos Carrero, Mark West, Zimo Yang, Xinxin Yu, Xianglei Zheng and Shifeng Zhou.

UNESCO also thanks Fideliz Apilado, Samuel Grimonprez, Glen Hertelendy and Emma James for their contribution to the production of this publication.

Acknowledgement is also due to all speakers and participants, including representatives of international organizations, government officials, academic experts and industry practitioners in the field of technology and AI in education, for their valuable contribution to the discussions and exchange of ideas during the event.

Finally, UNESCO gratefully acknowledges the generous support from Netdragon, CODEMAO, Infosys, Microsoft, Alef Education, Pearson and UNICEF for the organization of Digital Learning Week 2025.

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Reflections on Digital Learning Week 2025

by Helen Crompton, Executive Director, Research Institute of Digital Innovation in Learning, Old Dominion University

Digital Learning Week 2025 was carefully crafted by UNESCO. It was not a celebration of artificial intelligence (AI), nor a rejection of it. UNESCO's strategic intent was to leverage Digital Learning Week to fulfil its role as a global convenor, laboratory of ideas, clearing house, community builder and narrative shaper. UNESCO was taking the pulse of the global AI in education conversation by holding together three strands at once, disruptions, dilemmas and directions, not to choose a side, but to sit where disruption and doubt coexist with responsibility for charting inclusive futures.

From my vantage point, this year's conversations felt more charged than those of any previous Mobile Learning Week or Digital Learning Week. AI is the dominant theme of the conference and is no longer an abstract technology on the horizon. It is in students' hands, in teachers' browsers, in government ministers' talking points and very firmly in the business models of companies. This is a striking shift from 2019, when I worked with just one other colleague to develop UNESCO's first AI in education framework at a time when AI barely appeared in the programme. The level of tension at the conference this year reflected that new reality. People repeatedly said, 'put the student first,' but they meant very different things when they said it. For some, it meant deployment of AI tutors and adaptive systems for bespoke learning pathways and just-in-time information. For others, it meant slowing down, asking what sort of human beings we are trying to cultivate, and insisting that there are no shortcuts to deep learning, particularly for children who are already the least well-served by education systems. That tension, rather than being a problem to be ironed out, is precisely where I think UNESCO's value lies. Digital Learning Week 2025 showed that AI in education is now a place where foundational assumptions about education are being renegotiated.

From devices to dispositions

I noticed trends changing in digital narratives. Earlier waves of digital learning work highlighted the digital divide, who has devices, connectivity and platforms, and who does not. Those questions have not disappeared. They remain painfully acute in plenaries introducing African education perspectives, in refugee education discussions and in rural and low-resource contexts. However, throughout the week, I noticed a shift in the discussions. The divide now emerging is between those who have critical AI literacy skills and knowledge and those who are unquestioningly subjected to AI.

Critical AI literacy here is not the ability to operate a chatbot. It is the capacity to understand what these AI systems are, what they are not, when to trust them and when to challenge them. It involves recognizing that so much of what is branded as 'AI' is, as keynotes reminded us, a form of automation that predicts plausible language rather than understanding the world. It involves recognizing that when a model optimizes for fluency and user satisfaction, it does not necessarily optimize for truth, equity or human flourishing.

Across the sessions, there was a growing recognition that generative AI (GenAI) systems are particularly good at meeting our typicality bias. They give us what appears to be the average, the expected or the majority pattern in the data. For learners, this can feel comforting. The system mirrors back what appears familiar. However, this typicality bias runs directly against many of the aims we associate with transforming education, such as helping learners think beyond the obvious, interrogate dominant narratives and imagine alternatives that currently sit at the margins. If AI amplifies what is already normalized, then the question is not only what these systems are doing to education, but what their behaviour reveals about the inequities, epistemic blind spots and exclusions that education has long carried within it.

Yet throughout Digital Learning Week 2025, there were also encouraging signs of how AI, when carefully designed and responsibly deployed, can broaden what is possible in education. We saw examples of AI translation tools opening access to content in dozens of languages, assistive technologies supporting learners with disabilities, and early pilots where AI helped teachers pinpoint misconceptions more quickly. These cases did not present AI as a savior, but as a set of tools that, under the right conditions, can widen participation, strengthen inclusion and extend the reach of high-quality teaching.

A landscape of extremes

What struck me most at Digital Learning Week 2025 was the range of extremes on display. In one room, government ministers and private sector leaders showcased ambitious national initiatives, AI content platforms and education-to-employment ecosystems. In the next room, refugee educators described overcrowded classrooms where connectivity is intermittent, and where a low-tech device loaded with carefully selected content is far more effective than any experimental chatbot. Some speakers called for rapid scaling, invoking competitiveness and return on investment. Others cautioned that introducing unproven technologies into classrooms without strong evidence of safety and effectiveness is, in effect, experimenting on children.

Rather than seeing these positions as incompatible, I take them as signals that we must resist the temptation to settle quickly at the centre. In fact, we probably need to push both ends further. We need sharper arguments about what genuinely human-centred, evidence-informed and equity-focused use of AI in education would look like if we took it seriously, rather than as a slogan. At the same time, we need a stronger critique of the political economy that currently drives AI into classrooms, from corporate lobbying to the subtle ways in which optimization and efficiency creep into public sector decision-making. In this sense, the concept of ‘education as a common good’ becomes a necessary anchor. It is a public endeavour held in trust for current and future generations.

Curriculum and the centenary dialogue

The centenary dialogue of UNESCO’s International Bureau of Education was a fitting moment to consider curriculum in the age of AI. A century of curriculum work reminds us that technologies change, but core questions about what is worth learning and whose knowledge counts remain constant. The discussion carried both continuity and possibility, recognizing that curriculum now sits within a world shaped by human and machine intelligence working together. The dialogue strengthened commitment to education as a common good. Some saw AI helping expand access and multilingual learning, while others cautioned against treating curriculum as something purchased from vendors. Both views supported the idea that curriculum must be shaped collectively and responsibly.

Closing

As we look ahead, the task is not to decide whether AI belongs in education, but to shape the conditions under which it serves human flourishing. Digital Learning Week 2025 reminded us that progress comes from embracing complexity, rather than simplifying it, from listening across differences, and from ensuring education is a public good. What matters now is our collective willingness to think clearly, act responsibly and imagine boldly, so that the future of learning remains firmly rooted in human purpose, dignity and possibility.

Executive summary

Held at UNESCO Headquarters in Paris from 2 to 5 September 2025, Digital Learning Week 2025, convened over 1,200 in-person participants and 2,600 online participants from 136 countries, including more than 300 speakers and 20 ministers. Under the theme 'AI and the future of education: Disruptions, dilemmas and directions,' UNESCO's flagship global forum explored how AI is reshaping education and what that means for learners, educators and education systems worldwide. Offering a space for dialogue and action, the event highlighted the polyphony of voices and perspectives surrounding AI in education by surfacing both enthusiastic and critical viewpoints, and by fostering constructive debate and encouraging participants to anchor discussions in research and practice.

DLW 2025 aimed to clarify pathways for equitable, ethical and human-driven AI integration in education. Specifically, the event sought to:

- Foster critical reflection and visionary thinking about AI in education;
- Encourage multistakeholder dialogue, action and capacity building;
- Support the co-creation of resources and tools; and
- Imagine probable and desirable futures for AI in education through foresight approaches.

A recurring message throughout the event was that the role and impact of AI in education is no longer speculative. AI is already embedded in learners' lives, teachers' work and policy agendas, requiring urgent, responsible and anticipatory governance. Key takeaways from Digital Learning Week 2025 included:

- **Philosophical engagement as a lever for action**: Drawing directly on the think pieces contributed to UNESCO's 2025 publication *AI and the future of education: disruptions, dilemmas and directions*, keynote speakers argued compellingly that we need to engage more consciously with the underlying philosophical questions that influence and shape global and local narratives on AI in education and the quest for equity and inclusion. This foundational work is crucial because it creates spaces to clarify, define, redefine and locate the role of technologies within the purpose and values of education under volatile, complex and fast-changing conditions.

- **Navigating tensions**: The discussions highlighted how AI in education remains a deeply contested and dynamic space. What emerged was the importance of rejecting singular polarized and binary narratives, whether overly utopian or dystopian, and instead embracing nuanced, evidence-informed dialogue and practices that offer rights-based, socially just and equitable alternatives to prevailing dualities that focus primarily on the potential and limitations of AI in educational contexts. These conversations on burgeoning tensions need to be anchored in debates on emerging philosophies, and varied approaches to evidence, policy, research and practice.

- **Teachers' irreplaceable role**: The discussions reaffirmed that while AI can support teacher roles and enhance teaching practices under certain conditions, it cannot replace the human relationships and pedagogical judgment that define quality education. Strengthening teachers' individual and collective agency, deepening the teacher-student relationship, and enabling lifelong professional learning and support, emerged as critical practices, consistent with UNESCO's *AI competency framework for teachers* and the *Santiago Consensus of the World Teachers Summit* held in Chile in August 2025, and the position paper of the

International Task Force on Teachers for Education 2030 titled *Promoting and protecting teacher agency in the age of artificial intelligence*.

- **Governance, safety and ethics**: Across sessions, there was a shared recognition that robust ethical and governance frameworks are needed to protect learners and educators across varied contexts. Issues of data privacy, algorithmic transparency and bias mitigation were recurrent themes, underscoring the urgency of building trustworthy, rights-based and human-centred AI ecosystems in education. During the Week, UNESCO released the report *AI and education: protecting the rights of learners*.
- **Challenging AI inequalities**: The conversations surfaced growing concerns about deepening existing inequalities and the emergence of new forms of algorithmic inequalities, driven by disparities in access to digital infrastructure and data, and the skills and competencies needed to thrive in a world where AI plays an increasing role.
- **Local relevance and design dignity**: A recurring theme was the need for contextually responsive approaches to AI in education that centre on local ownership in the design and creation of AI models. Emerging strategies on design dignity and dignity by design enriched these conversations, drawing on practices in local communities across the world.
- **Global solidarity and the need for a global commons for dialogue and action on AI in education**: The dialogues highlighted that navigating the complexities catalyzed by AI's influence in education requires the creation of spaces for open, critical dialogue, action and global solidarity – a global commons - where the AIED communities can convene and co-create ideas, policies, and actions towards inclusive and equitable AI futures.

Digital Learning Week 2025 reinforced that the central question is not whether AI belongs in education, but under what conditions it should be shaped and governed. Progress will depend on embracing complexity, grounding decisions in evidence and values, and acting collectively to ensure that AI serves education's humanistic mission to support dignity, equity and possibility for all learners.

Introduction

UNESCO's Digital Learning Week has become the premier flagship event of the United Nations on technologies, AI and the transformation of education. It convenes a global community of digital education leaders, policy-makers, researchers and practitioners, including UN agencies, governments, civil society, academia and the private sector. The event was designed to provide a global space for bold conversations and collective exploration of technology's intersections with inclusive education futures, enabling diverse stakeholders to challenge prevailing narratives, share evidence and chart pathways towards equitable and sustainable education in a digitally mediated world.

Digital Learning Week also reflects UNESCO's mandate as a standard-setter and global laboratory of ideas, supporting Member States to navigate technological change in education in line with human rights, ethical principles and the vision of education as a global common good.

Digital Learning Week 2025 was held at UNESCO Headquarters in Paris, France from 2 to 5 September, marking the third edition since the rebranding of Mobile Learning Week in 2023. The event gathered a large and diverse audience, with 1,200 in-person participants and 2,600 online viewers from a total of 136 countries, alongside more than 300 international speakers and 20 ministers of Education or Information and Communication Technologies. Digital Learning Week 2025 took place in the backdrop of AI moving decisively from experimentation to widespread use in classrooms, teacher workflows and education governance, intensifying both expectations and concerns across education systems worldwide.

Under the theme 'AI and the future of education: Disruptions, dilemmas and directions', Digital Learning Week 2025 aimed to achieve the following objectives:

- Foster critical reflection and visionary thinking: To explore the implications of AI for education, prompting stakeholders to look beyond today's challenges and collaboratively envision the future of education.
- Encourage multistakeholder dialogue and capacity building: To provide a unique platform for diverse stakeholders to engage with one and another, ensuring the development of inclusive, just and sustainable digital education practices for the future.
- Co-create key resources and tools: To launch UNESCO-led knowledge products and tools, including think pieces on AI and learning futures, quality standards for digital learning platforms, and global capacity-building materials for policy-makers and educators, inviting feedback and contributions in the spirit of co-creation.
- Imagine futures through foresight approaches: To explore foresight and anticipatory methodologies that enable education actors to define and navigate a range of potential AI futures, by analyzing emerging trends, addressing challenges and uncovering opportunities for proactive engagement.

The Digital Learning Week programme comprised high-profile plenary sessions, including a ministerial roundtable, vision talks, plenary panels, public lectures and fireside chats. Complementing these were parallel sessions, training sessions, futures workshops and open ideas labs, which addressed a broad spectrum of issues related to AI and digital learning. Exhibitions ran concurrently throughout the week, showcasing innovative practices and solutions from across regions and sectors.

The first day of Digital Learning Week 2025 opened with a closed-door ministerial roundtable, which provided a strategic platform for a rich exchange on national strategies and leadership, and to address common concerns around curriculum reform, teacher training and the need to prioritize the safety of learners. The dialogue resulted in a shared vision and a strong commitment that the integration of AI in education must be human-centred, equitable, safe and ethical. Ministers identified five urgent priorities, which set a shared reference point for the discussions that followed across the full programme:

- Confronting the emerging 'AI divide';
- Ensuring safety and ethics to protect all learners;
- Protecting the irreplaceable role of teachers;
- Promoting AI that reflects local contexts, languages and cultures; and
- Advancing global solidarity and shared standards.

Over the course of the remaining 40+ sessions organized during Digital Learning Week 2025, participants explored how AI is reshaping curriculum, pedagogy and assessment practices. Highlights included a public lecture by Ms Emily M. Bender, Professor of Linguistics, and keynotes by Ms Abeba Birhane, Founder of the AI Accountability Lab, philosopher and thinker Mr Báyò Akómoláfé, and computer scientist Ms Nina da Hora. The main proceedings took place from 2 to 4 September, which were followed by the organization of several futures workshops, parallel sessions and open ideas labs from 4 to 5 September, aiming to foster best practices, encourage critical reflection and help shape guiding principles.

The event also saw the release of two new UNESCO publications. *AI and the future of education: disruptions, dilemmas and directions* is an anthology of think pieces, offering a collection of diverse perspectives and voices from 21 global thinkers, leaders and changemakers in education. Covering themes that range from philosophical reflection to concrete policy applications, it presents new ideas for equitable human-machine co-creation, while highlighting the emergence of AI divides. *AI and education: protecting the rights of learners* underscores that AI in education must be anchored in the right to education and safeguarded by human rights.

1. Ministerial roundtable



Welcome address

Before the public opening of the Digital Learning Week, a closed-door Ministerial Roundtable was convened on the morning of 2 September to bring together ministers and high-level representatives from Member States to discuss national priorities and share directions for AI in education. The session also included interventions and presentation of case studies by academics, experts and representatives of UNESCO, UNICEF, ITU and UNHCR.

SPEAKER

Ms Stefania Giannini
Assistant Director-General for Education, UNESCO

The session opened with welcoming remarks by Ms Stefania Giannini who framed the transformation of education, through investments, pedagogical methods and governance, as a process shaped by the collective decisions of policy-makers. This task was presented as becoming increasingly complex as technological change accelerates at a pace that often exceeds the adaptive capacity of existing education systems. The remarks highlighted ongoing national efforts to strengthen AI competencies for teachers and learners, while addressing risks such as algorithmic bias, surveillance, misinformation and overreliance on technology. Emphasis was placed on the need of ensuring that AI serves the public good and advances humanistic values through partnerships between governments, the private sector and civil society. In this context, UNESCO's role was reaffirmed in supporting Member States to collectively chart the direction towards inclusive, equitable and quality education for all, in line with the SDG 4 roadmap. Ms Giannini further highlighted UNESCO's role as a standard-setter, noting

the adoption of the first international *Recommendation on the ethics of AI*, its release of the AI competency frameworks for teachers and students, and its advocacy to keep global debates on AI in education remain grounded in core human values, human rights and the dignity of both learners and educators.

First keynote

Following the welcoming remarks, Ms Isabelle Hau delivered a keynote address titled 'Imagining what is next: Navigating plausible learning futures with AI'. It identified five key tensions shaping the outcomes of AI for learners, teachers and societies.

SPEAKER

Ms Isabelle Hau
Executive Director, Stanford Accelerator for Learning, United States of America

Tension 1: Learning with AI

This tension considers whether AI acts as a crutch or a catalyst for learning. Overreliance on AI may cause students to outsource thinking and focus on content production rather than conceptual mastery. However, emerging research, including recent studies at MIT, suggests that AI can enhance cognition when integrated thoughtfully, for instance, when used after learners engage in their own creative or reflective work. The challenge is ensuring that AI strengthens learners' capacity to 'learn how to learn'.

Tension 2: Efficiency versus transformation (the 'Turing Trap')

AI can improve administrative efficiency through automated grading or streamlined workflows, yet relying solely on efficiency, risks reinforcing existing systems rather than transforming them. Ms Hau highlighted innovative uses of AI, such as Stanford's Autism Glass Project, which helps children on the autism spectrum recognize emotions, as examples of technology's potential to expand human capability and redesign pedagogy.

Tension 3: The role of teachers

While some fear that AI may marginalize educators, evidence shows that teachers can thrive when supported by AI tools that reduce administrative burdens or provide feedback. Research from Stanford's Tutor Co-Pilot project demonstrated that real-time AI-generated recommendations can elevate novice tutors to the performance level of expert teachers, ultimately improving learning outcomes. The key is to ensure that teachers remain central and empowered in AI-supported education.

Tension 4: Equity and inclusion

AI presents risks such as algorithmic bias and widening digital divides but also offers opportunities to advance inclusion when designed as a public good. For example, AI tutors in local languages have helped close literacy gaps in rural India. The key challenge is ensuring that AI reduces, rather than widens, existing inequalities.

Tension 5: The future of work

Each technological wave brought renewed debates about automation (AI replacing human capabilities) and augmentation (AI enhancing human capabilities). Recent Stanford research shows that entry-level jobs are disproportionately exposed to AI (about 13 per cent in 2025).[1] The Stanford University Human Agency Scale highlights how occupations evolve when AI is leveraged productively, providing a framework that moves beyond automation to capture varying degrees of human involvement. This scale illustrates how tasks range from being fully AI-driven to requiring essential human judgment, underscoring that the future of work will depend not only on technological capability but also on how education and training prepare individuals to collaborate with AI in

creative and relational ways.

After outlining the five tensions, Ms Hau concluded her keynote by identifying three key policy levers for ministerial action.

First, empowering teachers through comprehensive AI literacy and instructional design training is a priority, alongside ensuring the voice of the teacher in the selection, implementation and fine-tuning of AI tools. The creation of educator innovation networks can support peer learning and the sharing of effective practices, reflecting the view that teachers learn best from other teachers.

Second, investing in equity is important, including universal access to digital infrastructure and device(s), regular auditing of algorithmic bias, and the development of AI tutors as public goods.

Finally, designing for human intelligence is essential for policy-makers. This entails reforming assessment systems to better measure creativity, collaboration and critical thinking, funding research on AI that fosters human potential, and establishing ethical guidelines for the use of AI in schools and society. Her conclusion stressed the urgency of shaping AI's role in education, as adoption is accelerating across systems worldwide.



Ministerial statements

Following the keynote address, the session continued with ministerial statements moderated by Mr Tawfik Jelassi and Mr Sobhi Tawil.

Ministers and high-level representatives from 21 Member States shared perspectives on the current state of AI integration in their education systems, highlighting both emerging opportunities for

learners, teachers and institutions, as well as associated risks and challenges. The statements also addressed ongoing efforts to build capacity among educators, learners and institutional leaders to engage meaningfully with AI, and outlined national visions and priorities for the future role of AI in education over the coming years.

Participating countries whose Ministers delivered statements included Albania, Armenia, Democratic Republic of the Congo, Ghana, Luxembourg, Malaysia, Mauritius, Namibia, Palestine, Slovakia, Somalia, Türkiye, Uganda, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, and Uzbekistan. Observer countries included Belgium (Flanders), Chile, France, India, Libya, Mexico, Morocco, Oman, Saudi Arabia, Senegal, Singapore, South Africa, United Republic of Tanzania, Uruguay and Zambia.

Throughout the Ministerial Roundtable, case studies from Armenia, Luxembourg, the Republic of Korea and Uruguay illustrated diverse national approaches to integrating AI into education systems. The experiences were presented respectively by Ms Suzanna Shamakhyan, Mr Luc Weis, Mr Jae Young Chung and Ms Fiorella Haim.

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Armenia's case study focused on 'Generation AI', a public–private partnership that integrates advanced AI education into public high schools. Launched in 2023, the programme aims to nurture future AI creators within the public education system by combining technical and foundational knowledge (i.e. algebra, python language and machine learning), skills and competencies, and an innovator mindset. This project, led by a nonprofit, non-governmental, diaspora-based entity, has been successful because of a dual structure that brings top professors and young professionals from global tech companies to develop high quality content, methodologies and tools, while a strong local team ensures their effective adaptation and integration into the public education system. Early data indicate no performance gaps between female and male students and no correlation between students' socioeconomic background and academic results, suggesting that the programme supports equitable learning outcomes.

Luxembourg presented its national approach to AI in education through the work of SCRIPT, which plays a central role in shaping and coordinating policy, practice and innovation. In Luxembourg, AI has been progressively and structurally integrated into primary and secondary education though a model that prioritizes the development of student autonomy and creativity before reliance on technological tools. The approach is grounded in the principle that AI must remain in service of human beings and should support learners in acting as AI co-agents by enhancing creativity, empathy and critical thinking – core human capacities that distinguish learners from machines.

Findings from a national survey highlighted the need for a 'usage framework' for teachers and students, as both groups recognize AI as a fundamental skill rather than an optional one. However,

while students generally report confidence and familiarity with AI tools, teachers often express lower levels of confidence, pointing to the need for targeted professional development and sustained support. Luxembourg has emphasized the importance of a complementary governance framework for educators and school leaders, ensuring that responsibility is shared collectively rather than placed solely on individual teachers.

A key initiative supporting this approach is the establishment of local communities of practice in all schools. These serve as collaborative spaces where teachers can share experiences, experiment with AI-based pedagogical approaches and develop guidance tailored to local contexts. They also play a crucial role in balancing the rapid pace of technological change with the limited long-term evidence available to inform policy decisions in education.

To further support educators, Luxembourg has developed KI Kompass, a comprehensive platform designed as a one-stop resource for education professionals. The platform provides access to public policy documents, national strategies and visions, usage frameworks and clear guidelines for leaders, teachers and students. Beyond serving as a resource library, KI Kompass functions as an interactive space where educators can share learning scenarios, provide feedback and directly access training courses and local communities of practice.

The Republic of Korea began its case study presentation by highlighting its adherence to a unified national curriculum, most recently reinforced through the 2022 national curriculum reform, which positioned digital and AI literacy as core competencies. The country has doubled the number of institutional hours allocated to the subject of informatics, which integrates concepts of AI and software education, with the aim of strengthening students' computational thinking skills. The instructional hours dedicated to AI and digital literacy education are expected to expand further under the newly inaugurated administration.

In parallel, the Republic of Korea has prioritized the development of human infrastructure by providing teachers with systematic training in AI and digital competencies. These trained teachers subsequently serve as peer coaches within their respective regions and schools. KERIS operates the Knowledge Spring Platform, which can be described as a YouTube for teachers, and to date, 450,000 cases have been shared, transforming the platform into a living archive of pedagogical knowledge. A key success factor is that the country did not limit its approach to the provision of digital tools through government policy alone. Instead, it actively fostered professional learning communities in which educational practices evolve organically through collaboration and voluntary teacher participation. A notable example is GoGo School, which is a collaborative teacher association that received the UNESCO ICT in Education Prize in 2024. Through such communities, innovative classroom practices have spread both offline and online, enabling students to experience more personalized learning supported by skilled teachers.

Looking ahead, the Republic of Korea has developed forward-looking plans to strengthen its AI-enabled education ecosystem. These include the development of a student-centred integrated support service that analyzes learning, emotional and behavioural data to enable timely and tailored interventions, as well as an integrated national learning platform designed to support adaptive learning and system-level data-informed decision-making. These initiatives align with the national ambition, set by the government inaugurated in 2025, to position the Republic of Korea as an 'AI powerhouse nation', with education playing a central role in leveraging agentic AI to support both learners and teachers.

The last presentation from Uruguay began with an emphasis on its strong national commitment to quality education, which is central to Ceibal since its creation in 2007. From the very beginning,

Ceibal was conceived not merely as a technology programme, but as a policy instrument to advance educational equity. As a result, Uruguay has achieved universal access across public education, with 100 per cent of public schools equipped with broadband Wi-Fi and digital devices. This nationwide approach has played a critical role in closing gaps related to income, geography and gender.

Ceibal began exploratory work in 2017, launched AI literacy initiatives in 2020, and established the EduIA Lab in 2025. The Lab operates around three core objectives. First, it expands access to AI tools that support both teachers and students. Second, it promotes AI literacy for all learners, regardless of gender, with a focus on developing critical thinking, ethical awareness and responsible use. Third, it fosters regional knowledge-sharing and cooperation in AI for education across Latin America. These efforts are grounded in Ceibal's guiding principles of inclusion, diversity, safety, transparency and equity. In this vision, AI is not a replacement for teachers, but a powerful tool to support, amplify, and empower their work.

Throughout 2024 and 2025, Uruguay scaled up AI training programmes for teachers and families, strengthening system-wide capacity and understanding. In parallel, Ceibal is currently advancing more than 40 AI innovation projects that demonstrate concrete educational applications, including AI tutoring systems, third-party teacher assistant tools, chatbots designed to prevent school dropout and AI-powered digital textbooks.

Equity remains at the centre of Uruguay's approach. Students from diverse socio-economic and geographic contexts, both girls and boys, are ensured equal access to technology through Ceibal, and the country is committed to ensuring that the next wave of AI-driven innovation helps close existing gaps rather than deepen them. In this regard, Uruguay offers a unique case of a whole country functioning as a living laboratory for AI in education, where the values of democracy, equity and inclusion guide technological innovation.

Second keynote

SPEAKER

Mr Kalervo N. Gulson
Professor of Education Policy, Centre for AI, Trust & Governance, University of Sydney, Australia

Afterwards, Mr Kalervo N. Gulson delivered the second keynote speech on AI and the future of governing education. Drawing on an analysis of more than 500 AI policies, only approximately seven per cent directly engage with education, underscoring the marginal positioning of education within broader AI governance debates. There are clear regional differences observed in policy orientation. Whereas Europe tends to prioritize rights-based frameworks and regulation, North America emphasizes risk management alongside innovation, the Asia-Pacific region links AI closely to education and skills competitiveness, the Middle East frames AI primarily as a driver of economic transformation, and Africa foregrounds equity through access and inclusion.

Against this backdrop, Mr Gulson identified three major challenges for governing AI in education. First, education governance is increasingly moving toward 'synthetic governance', in which humans and machines jointly participate in decision-making processes. A key concern in this model is the growing difficulty of distinguishing between decisions made by human actors and those generated or shaped by automated systems. This shift will fundamentally change not only how education systems are governed, but also how governance itself is conceptualized, raising critical questions about whether existing understandings of governance remain adequate and what synthetic governance

implies for transparency and trust.

Second, achieving equitable change in education is becoming increasingly difficult due to the role of AI infrastructure. Technology companies are no longer merely providers of products and services but have become major actors embedded within the infrastructure of education systems themselves. As these companies deepen their reach, shaping technology for democratic purposes becomes more challenging and equity objectives more difficult to pursue. An illustrative example is the integration of more than 30 AI tools into Google Classroom in mid-2025, which was implemented without clear articulation of its educational purpose or meaningful consultation with schools and teachers regarding its desirability.

Third, governance frameworks for AI in education must catch up with rapidly emerging cultures of use. Education systems are currently part of a global experiment, in which AI is being used in diverse and evolving ways, while its actual implications for core educational purposes, such as social mobility, human capital development and the formation of active and informed citizens, remain insufficiently understood.

As with previous technological shifts, there is a persistent lag between technological adoption and policy-making in education. However, governing AI in education can no longer remain reactive. Instead, there should be a shift toward anticipatory governance that proactively shapes how AI is integrated into educational systems. Referring to earlier remarks on the 'Turing Trap', an excessive focus on efficiency risks obscuring other critical governance questions.

In concluding, Mr Gulson urged for closer attention to how AI may be reshaping relationships within education, including student-teacher and student-student interactions, and to reflect on how these relationships are changing and how they should ideally evolve. Reflection should also be encouraged on whether AI is altering the nature of work, thinking and learning in education, and whether such changes are ultimately desirable in light of broader educational values and societal goals.

Think piece link: *AI and governing education: Rethinking democratic action, resistance and participation*



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Closing remarks

During the last segment of the Ministerial Roundtable, representatives from international organizations delivered closing reflections on the future of AI in education.

SPEAKERS

Ms Ruven Menikdiwela
Assistant High Commissioner for Protection, UNHCR

Mr Thomas Davin
Service for the Coordination of Educational and Technological Research and Innovation (SCRIPT), Luxembourg

Ms Irene Kaggwa
Giga Programme Manager, ITU

Ms Stefania Giannini
Assistant Director-General for Education, UNESCO

Representing UNHCR, Ms Ruven Menikdiwela emphasized that while the expansion of AI in education may be inevitable, policy-makers bear a responsibility to actively steer this transformation toward inclusive and human-centred outcomes rather than leaving its impacts to chance. From UNHCR's perspective, there are three key priorities. First, innovation must be guided by rights, noting that refugees and forcibly displaced learners are particularly vulnerable to exclusion and harm through biased algorithms, data misuse and unequal access. Second, inclusion must be deliberate so that AI can expand educational opportunities only if learners at the margins are intentionally considered. Third, partnerships are important, and no single actor can manage the AI transformation alone. In this context, ITU, UNICEF, UNESCO and UNHCR have complementary roles, and coordinated action can help ensure AI becomes a force for equity rather than exclusion. Finally, policy-makers should not only prepare education systems for AI, but prepare AI for education systems, with equity, safety and dignity at the core, so that the promise of education for all, including refugees, can be realized and no learners are left behind.

Speaking on behalf UNICEF, Mr Thomas Davin insisted that the debate has shifted from whether AI should be used in education to how it can be used responsibly and effectively, while acknowledging that robust evidence on the impact of many AI solutions currently deployed in schools remains limited. In this context, UNICEF is committed to digital transformation, working closely with partners such as UNESCO, ITU and UNHCR, and is cautiously optimistic about AI's potential to help address the global learning crisis. Drawing on UNICEF's field experience, four key insights were highlighted. First, there is a need for system-wide approaches to AI in education, encompassing connectivity, sustainable financing, interoperability, governance, data protection, teacher empowerment and personalized learning within coherent and well-structured national strategies. Second, teachers must remain at the centre of AI-enabled transformation, both as champions of change and as a critical safeguard to ensure that educational values and learning objectives are upheld. Third, the values embedded in AI systems will ultimately shape their impact, calling for deliberate attention to inclusion, particularly for learners in rural areas, refugees and displaced children, and children with disabilities. As an example, UNICEF's Accessible Digital Textbooks initiative aims to improve accessibility through features such as speech-to-text and sign language support. Fourth, evidence and reach must guide decision-making, in view of the proliferation of more than 100,000 education technology solutions globally and the urgent need to prioritize those with proven impact. UNICEF is developing a learning repository to help identify effective, safe and scalable solutions, including considerations of openness, child safety standards and cost.

Representing ITU, Ms Irene Kaggwa acknowledged the transformative potential of AI in education,

particularly its capacity to expand learning opportunities for children with disabilities and special educational needs, and underscored the importance of close collaboration with partners including UNESCO, UNHCR and UNICEF to ensure that AI serves humanity in inclusive and responsible ways. Persistent digital divides are a central challenge as well as unequal connectivity, stressing the need to prioritize inclusion, safety, fairness and sustainability in the development and deployment of AI systems. Humans must be kept at the centre of AI-enabled education, avoiding narratives that position AI as a replacement for teachers. Instead, approaches should preserve human agency, social interaction and collective learning, particularly at a time when concerns about excessive device use among children are growing. Governments, regulators, industry leaders and international organizations have a shared responsibility in ensuring ethical AI development. ITU is in partnership with more than 50 UN entities, including UNESCO, to advance ethical AI in education as well as to develop a guiding framework for AI competencies for school education. Ms Kaggwa welcomed the recent United Nations resolution on global dialogue on AI governance as an important step toward aligning stakeholders around ethical considerations and responsible governance.

In closing, Ms Stefania Giannini delivered the closing remark by emphasizing five key priorities. First, addressing emerging inequalities by confronting not only the digital divide but also a growing AI divide through sustainable infrastructure and equitable access. Second, ensuring that safety and ethics are non-negotiable, with strong regulatory frameworks, data protection and safeguards against algorithmic bias, particularly to protect children. Third, protecting the irreplaceable human relationship between teachers and students, reaffirming the dignity and central role of teachers in education. Fourth, ensuring localization and cultural relevance, so that AI systems are responsive to diverse languages and contexts rather than following a single dominant trend. Fifth, advancing global solidarity through international cooperation and shared standards for the safe and ethical governance of AI in education.

2. Public lectures and keynote speeches

2.1 Vision talk by Stefania Giannini



AI and the future of education: Disruptions, dilemmas and directions

Date: 2 September 2025
Time: 14.15-15.00
Venue: Room I
URL: https://youtu.be/yd17A-vsZo8?t=1621

MODERATOR

Mr Sobhi Tawil
Director, Future of Learning and Innovation Division, UNESCO and Director a.i., UNESCO International Bureau of Education

SPEAKER

Ms Stefania Giannini
Assistant Director-General for Education, UNESCO

Key messages

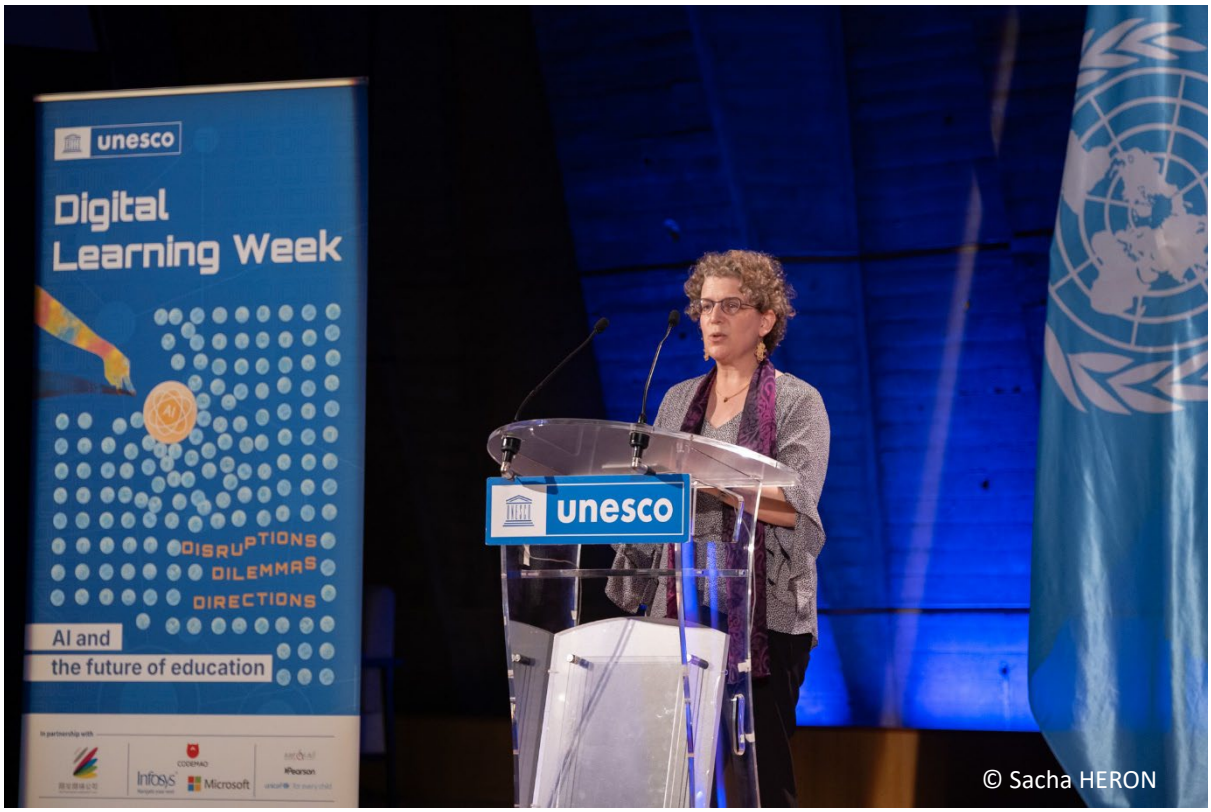
- AI represents a historic disruption, transforming both education and society, creating significant opportunities for innovation while also raising dilemmas around ethics, policy and sustainability.
- AI in education must remain human-centred, equitable, ethical and sustainable, underscoring five priority areas for action: (1) bridging the AI divide, (2) ensuring ethics and safety, (3) empowering teachers, (4) promoting cultural relevance, and (5) fostering global solidarity.
- Imagination, courage and collective action are essential to chart a shared path forward.

Summary of the session

Ms Stefania Giannini opened the 2025 Digital Learning Week by describing AI as a historic disruption to education. For centuries, classrooms have followed the same model, but AI is now fundamentally reshaping how people learn, teach and interact. While AI brings transformative opportunities for personalization, access and innovation, it also raises profound ethical, social and environmental dilemmas. These include risks of overreliance on AI, emerging parasocial relationships with AI systems, policy trade-offs between investing in technology or teachers, and the environmental costs of large-scale data centres.

Such dilemmas are not dead ends but signposts for new directions. She outlined five priorities for the future: (1) bridging the AI divide by ensuring infrastructure, connectivity and equitable access; (2) safeguarding ethics, safety and data privacy; (3) empowering and supporting teachers as irreplaceable guides; (4) ensuring localization and cultural relevance of AI tools; and (5) fostering global solidarity to set standards and share knowledge. She concluded with a call for human-centred, equitable, ethical and sustainable approaches to AI in education, highlighting the need for imagination, courage and collective action to navigate this transformation.

2.2 Public lecture with Emily M. Bender



AI in education: Disruptive force or overhyped promise?

Date: 2 September 2025
Time: 15.00-15.30
Venue: Room I
URL: https://youtu.be/yd17A-vsZo8?t=4236

MODERATOR

Mr Manos Antoninis
Director, Global Education Monitoring Report, UNESCO

SPEAKER

Ms Emily M. Bender
Professor, Department of Linguistics and Director, Computational Linguistics Laboratory, University of Washington, United States of America

Key messages

- The term 'Artificial Intelligence' is largely a marketing construct rather than a precise technical concept. A more accurate approach is to focus on automation by asking what is being automated, for what purpose, and who ultimately benefits. Large Language Models and chatbots do not truly understand language but they mimic it, which can generate misinformation and create significant accountability gaps.
- Education is fundamentally a social process. Reducing learning to chatbot interactions undermines the vital roles of both teachers and students.
- AI development carries significant hidden costs, including exploitative labour, environmental damage and erosion of creative expression. While technology companies often promote narratives of AI's inevitability to advance commercial interests, educational decision-makers should put students' interests, rights and well-being first—above market or technological pressures.

Summary of the session

Ms Emily M. Bender began by challenging the very term 'artificial intelligence', arguing that it is a marketing term rather than a coherent set of technologies. Instead, she urged framing these systems as automation, which allows clearer questions: what is being automated, why and for whose benefit?

Focusing on large language models (LLMs) and chatbots, she explained that these systems generate convincing text without understanding, creating only the appearance of reasoning, as they are trained through reinforcement learning from human feedback, in which large groups of data workers evaluate the systems' outputs. As a result, students become vulnerable to receiving bespoke misinformation that aligns with their own patterns of input. Moreover, because these systems can present false information authoritatively and convincingly, teachers now carry the additional responsibility of identifying and correcting such errors, making their work even more demanding.

Ms Bender explained that chatbots present information that no one is accountable for, presenting knowledge as something detached from the people and communities who create and interpret it. To illustrate this, she asked how long the coastline of France is, a question that appears factual but whose answer depends on how and by whom the measurement is made. This example shows that information is not a neutral fact but something that must be understood in context, with respect to its producers and purposes. From this perspective, she argued that the purpose of education should not be the mere accumulation of knowledge, but rather the process of learning how to learn and developing the ability to navigate and contribute to an information ecosystem.

Ms Bender also highlighted wider harms, including exploitative labour in AI development, environmental costs and the devaluation of artistic and student expression through synthetic media. She warned against inevitability narratives promoted by tech companies seeking profit, data and influence. Instead, she called for skepticism, prioritizing students' interests and resisting solutions that undermine education's social and human-centred values.

During the Q&A session, the first question asked was 'How should we regulate this powerful technology?'. In response, Ms Bender emphasized that the regulation should begin by applying existing laws within each sector such as medical technology regulations or truth-in-advertising rules, rather than attempting to regulate 'AI' as a whole. In the field of education, she suggested that this could include requirements for efficacy before adopting new tools as well as addressing data privacy concerns. She stressed that the focus should be on regulating specific applications of automation and ensuring accountability.

The second question raised whether there should be a body like the American FDA (Food and Drug Administration) to certify AI in education before adoption. While not a regulatory expert, she acknowledged the potential value of a certification process to ensure that EdTech products are safe and effective, especially in schools. Ms Bender acknowledged the potential value of a certification process to ensure that ed-tech products are safe and effective, especially in schools. She pointed out that there is a distinction between products adopted by education systems and those marketed directly to parents and students, suggesting that particularly high standards should apply within formal education.

The third question asked how AI could support students with disabilities while still mitigating risks. Ms Bender responded by emphasizing the importance of defining what we mean by 'AI' and tailoring it to specific educational contexts. She noted that certain applications, such as text-to-speech for visually impaired students or carefully designed text simplification tools, could be valuable if developed in close consultation with affected communities and rigorously evaluated for accuracy. However, she cautioned against the use of general-purpose large language models in these areas, as they risk producing errors that could mislead learners.

Think piece link: *We do not have to accept AI (much less GenAI) as inevitable in education*

2.3 Public lecture with Báyò Akómoláfe





The Author is a distraction: How AI rearranges what it means to write, learn and be human today

Date: 3 September 2025
Time: 09.00-09.30
Venue: Room I
URL: https://youtu.be/y8uWA7bhuvA?t=176

MODERATOR

Ms Shafika Isaacs
Chief, Section for Technology and AI in Education, Future of Learning and Innovation Division, UNESCO

SPEAKER

Mr Báyò Akómoláfé
Hubert Humphrey Distinguished Professor of American Studies, Macalester College, W.E.B. Du Bois Scholar, Schumacher Center for a New Economics and Inaugural Scholar in Residence, Aspen Global Leadership Network

Key messages

- AI challenges traditional notions of creativity and authorship, revealing intelligence as a collective and ecological process that emerges through relationships among humans, technologies, and the material world, rather than as an exclusively individual or human capacity. This shift reflects a broader 'second fall', in which humanity is being fundamentally decentered.
- Meaningful engagement with AI requires humility, openness and a willingness to 'live in the cracks'. AI should be approached as an incomplete but generative companion that invites curiosity, play, and experimentation, rather than as a tool to control or perfect.
- The concept of 'cyber marronage' illustrates how AI is not a neutral tool but a mirror exposing deeply rooted hierarchies and inequalities in society. Harms do not originate from AI itself but from systemic issues embedded within human and capitalist structures. Any meaningful engagement with AI demands a critical examination of these broader social systems.

Summary of the session

Mr Báyò Akómoláfé began his keynote by reflecting on how the rise of AI and its growing creative abilities have reshaped his understanding of authorship. He described being both fascinated and unsettled by the realization that writing and creativity, once seen as uniquely human, have now been democratized by technologies. This experience led him to propose the concept of the

'authorial,' which he described as an assemblage that includes humans, bacteria, matter and technology.

He argued that AI is not simply an invention but rather the latest reminder that humans are not in control. He referred to this awakening as 'the second fall,' a process through which humans are being displaced from the centre.

Mr Akómoláfé invited the audience to view AI from a 'slantwise' perspective, one that embraces uncertainty and humility rather than control or domination. He introduced the idea of 'cyber marronage,' a concept inspired by Black studies and disability studies, as a way to describe AI not as a neutral tool but as a trickster that exposes long-standing hierarchies and injustices. Just as enslaved or disabled people were once deemed 'less than human' or 'not yet rational,' AI today is framed as 'not yet conscious.' These narratives, he warned, reproduce the same logic of hierarchy and control that has historically sustained oppression.

He argued that AI itself is not the source of harm but a mirror that reveals the harm already embedded in society. Unless humanity confronts these underlying conditions with humility, it risks repeating the destructive cycles that have defined modern history, including slavery and ecological devastation.

According to Mr Akómoláfé, 'cyber marronage' represents a fugitive movement that escapes the boundaries of design, mastery and control. He called for a new mode of engagement grounded in curiosity, ceremony and openness rather than regulation or optimization. To illustrate this, he referred to a Navajo weaving tradition in which artisans intentionally include a diagonal line in the fabric. The line serves no functional purpose but interrupts the fabric's sense of completeness. In the same way, he encouraged educators and thinkers to follow the 'oblique line' in today's world, to stay with uncertainty and to continue playful experimenting rather than seeking a solution.

Concluding his talk, he argued that education should move beyond fixed solutions and rigid prohibitions. Instead of banning AI tools or clinging to old hierarchies of knowledge, teachers and students should experiment playfully, embrace openness in curricula, and meet AI as an incomplete companion rather than a perfected machine. For Mr Akómoláfé, this is not an age of control but a time to learn to play with the world as it changes, accepting that humanity is no longer the sole author of its story.

Think piece link: *Listening in the cracks: A conversation with Báyò Akómoláfé*
Interview link: https://www.youtube.com/watch?v=jqT4fTtTTRIjqT4fTtTTRI

2.4 Keynote with Abeba Birhane



Futures that learn: Reimagining education beyond prediction and control

Date: 2 September 2025
Time: 16.45-17.15
Venue: Room I
URL: https://youtu.be/yd17A-vsZo8?t=9193

MODERATOR

Mr Sobhi Tawil
Director, Future of Learning and Innovation Division, UNESCO and Director a.i., UNESCO International Bureau of Education

SPEAKER

Ms Abeba Birhane
Founder, AI Accountability Lab (AIAL) and Research Fellow, School of Computer Science and Statistics, Trinity College Dublin

Key messages

- GenAI is built on unreliable foundations, often producing so-called 'hallucinations'. Because it is trained on past data, it inevitably reproduces and amplifies historical and social biases that cannot be fully corrected.
- Education has no shortcuts. Overreliance on AI can weaken independent thinking, critical reasoning, creativity, mathematical skills and problem-solving. True education remains relational and human-centred, grounded in trust, empathy, care and humility—qualities that cannot be automated. Before considering how AI should be used, it is essential to define what education is and what it aims to achieve, reaffirming the central role of teachers in fostering critical thinking and guiding responsible AI use within the student–teacher relationship.
- Strong governance and accountability are essential. AI in education should meet evidence and safety standards comparable to medicine, requiring rigorous audits and collective action to counter corporate lobbying and safeguard the public interest. Outsourcing to big tech risks

commercializing public responsibility and exposing education systems to shifting political or corporate priorities.

Summary of the session

Ms Abeba Birhane argued that, despite promises of personalization and efficiency, GenAI rests on an unreliable foundation. In practice, many companies have reported minimal gains or low returns on investment, challenging the notion that AI truly saves time or cost. One of the most fundamental problems, she explained, is hallucination, which is AI's tendency to produce information that sounds plausible but is in fact false. This is not a minor flaw but an inherent feature of technology. As a result, even basic tasks like summarization often produce inconsistent or factually incomplete outputs.

Another key issue is that GenAI is trained entirely on past data, which means it inevitably replicates and amplifies historical and social biases (e.g. biased grading algorithms or unequal job associations based on race or gender). These problems cannot simply be 'fixed,' because they are built into the very foundation of how these systems learn. When such technologies are applied in education, the same flaws - distorted information, bias, and unreliability - are reproduced in the classroom.

She further raised ethical and social concerns, warning that introducing AI is not a magic trick and that there are no shortcuts in education. Overreliance on AI weakens students' independent thinking, critical reasoning, creativity, mathematical thinking and problem-solving. Attempts to fully automate schooling have repeatedly failed, wasting public resources, while AI 'companions' blur emotional boundaries and raise serious concerns for young learners. Education, she stressed, is a relational and human-centred practice built on trust, empathy, care and humility which are qualities that cannot be measured, quantified or automated.

In terms of governance, Ms Birhane urged that AI in education should be held to the same safety and evidence standards as medicine, requiring rigorous testing and validation before implementation. She also cautioned against outsourcing education to big tech, as it risks commercializing a collective responsibility and leaves education systems vulnerable when corporate priorities change. Large firms' accountability, she noted, often shifts with political climates and business interests (e.g. changes in diversity policies or controversial geopolitical partnerships) and many actively lobby to dilute regulation.

During the Q&A session, the first question asked was about adopting a participatory approach or co-creating AI in education. In response, Ms Birhane drew on Joseph Weizenbaum's reflection,[2] reminding the audience that before asking how to use technology, we must first ask what education is and what it should achieve. She emphasized that education is an interpersonal and relational practice, cultivating empathy, responsibility and care, which cannot be replaced by technology. Ms Birhane cautioned that while students may individually experiment with generative tools, large-scale institutional adoption risks endorsing technologies that remain untested and unreliable, diverting resources away from more pressing needs.

The second question concerned how teachers could guide students to use AI tools like ChatGPT responsibly. Ms Birhane explained that the key lies in strengthening critical skills, particularly critical thinking, and the ability to distinguish fact from misinformation. She stressed that the student–teacher relationship is central to fostering responsible engagement. However, she reiterated that the greater concern lies with institutional adoption, which legitimizes unproven systems and carries broader risks.

The third question asked how companies could be held accountable. Ms Birhane described her own research on auditing AI systems, from AI companions to recommendation algorithms, which aims to provide rigorous evidence when claims do not match reality. Beyond research, she argued, accountability requires collective action. While major companies like Google and OpenAI invest heavily in lobbying against regulation, educators, civil society and individuals must form counter-alliances to raise awareness and exert collective pressure, ensuring that governments and regulators cannot ignore these concerns.

Think piece link: *The incomputable classroom: The limits and dangers of AI in education*

2.5 Spark talk with Nina da Hora



From design to dignity: Co-creating AI for the common good

Date: 4 September 2025
Time: 09.45-10.15
Venue: Room I
URL: https://youtu.be/j96F_MGZvew?t=1070

MODERATOR

Ms Lidia Brito
Assistant Director-General for Natural Sciences and Assistant Director-General for Human and Social Sciences a.i., UNESCO

SPEAKER

Ms Nina da Hora
Director, Instituto da Hora and Member, Committee on Responsible AI and Society, Chatham House, Brazil

Key messages

- AI systems are never neutral, and dignity must come before design. Design choices determine who is made visible, who is erased, and who ultimately benefits. Brazil's *Faces Negras Importam* campaign demonstrates how, when dignity is neglected, generative AI can reproduce historical erasures and biases, particularly against marginalized communities.
- Educators and communities must participate as co-creators of AI. Beyond using AI, teachers, students and local communities should engage in its development, reclaiming creative and ethical agency in education and ensuring that AI reflects diverse values, identities and cultures.
- Addressing algorithmic injustice and rebuilding AI for the common good requires collective, context-sensitive action. Regulation and ethics alone are insufficient. AI systems must centre marginalized voices, challenge the myth of neutral or complete data, and emerge from lived

practice. Decolonizing AI requires that regions define their own strategies rather than adopt imported models, with the goal of coexisting with AI responsibly, creatively and with dignity.

Summary of the session

Ms Nina da Hora, a computer scientist, opened her talk by acknowledging that while working in technology sector, she does not believe AI alone can solve the fundamental problems of education. She noted that the way AI systems are designed is never neutral: design choices encode who is seen, who is erased and who benefits.

To illustrate what this means in practice, Ms da Hora emphasized that dignity must come before design. She shared the campaign *Faces Negras Importam* (Black Faces Matter), developed in collaboration with Black researchers, educators and Brazil's Ministry of Racial Equality. By reconstructing historically erased Black figures such as Maria Felipa, Tereza de Benguela and Luiza Mahin through AI and 3D modeling, the project highlights how generative AI can reproduce existing biases and erasures when dignity is not placed at the centre of design.

Reflecting on her mentorship work with professors and public-school teachers in São Paulo, Ms da Hora shared that educators often ask two distinct questions: 'How can we use AI in the classroom?' and 'How can we develop AI in the classroom?'. The second question, she said, is far more transformative, involving users not only as participants but as co-creators and principal stakeholders in shaping AI systems. Empowering educators to understand AI development, rather than merely use AI, is key to reclaiming creative agency and re-imagining how technology serves learning.

While regulation and ethical frameworks are important, Ms da Hora stressed they are insufficient. She proposed two guiding principles for rebuilding AI in education: (1) centralize identities and cultures, ensuring that educators, Indigenous and Black communities, and historically excluded groups co-create AI systems rather than remain subjects of them; and (2) de-centralize the narrative around data, adopting a critical view of data's limits instead of assuming it can solve every problem. Data, she emphasized, carries historical exclusions, and re-imagining education without memory or values risks erasing human dignity.

She concluded by arguing that AI for the common good will not emerge from guidelines or technical expertise alone, but from lived practice. Teachers must be in classrooms, and many voices, forms of knowledge, and cultures must come together as equal partners in shaping how AI is developed and used. 'The question is not how to stop AI,' she said, 'but how to re-imagine AI together.'

Following her Spark talk, the conversation continued with moderator Ms Lidia Brito asking Ms da Hora what gives her hope for systems that actively reduce structural injustice. She responded by sharing her activism against the use of facial recognition technologies in Brazil, which she described as reproducing racial and social inequalities under the guise of security. Ms da Hora explained that Brazil's strategy involves reframing such technologies as both privacy and surveillance risks and pushing for regulatory transparency. Collaboration among activists, academia, the private sector and government has been essential to rethinking how AI systems are built and governed.

In response to a final question on what simple steps individuals can take, Ms da Hora emphasized the importance of collective and educational action. She called for creating more space for young people, who bring flexibility, imagination and new strategies, to participate in shaping AI futures. She argued that decolonizing technological development requires recognizing that different regions and cultures need their own approaches, rather than importing solutions from the Global North.

Ms da Hora closed by underscoring that AI and digital technologies are here to stay, and that the real task is to coexist with them responsibly, creatively and with dignity.

3. Plenary sessions

3.1 UN voices and views



Date: 2 September 2025
Time: 14.15-15.00
Venue: Room I
URL: https://youtu.be/yd17A-vsZo8?t=2820

MODERATOR

Ms Stefania Giannini
Assistant Director-General for Education, UNESCO

SPEAKERS

Ms Ruvendrini Menikdiwela
Assistant High Commissioner for Protection, UNHCR

Mr Thomas Davin
Director, Office of Innovation, UNICEF

Ms Irene Kaggwa
Giga Programme Manager, ITU

Key messages

- AI in education presents both opportunities and serious risks, especially for vulnerable learners. Without safeguards, it can deepen inequalities, spread misinformation and compromise human rights, highlighting the importance of rights-based, protection-centred approaches that ensure all learners—including those marginalized by geography, socio-economic status, disability or other barriers—are supported and included.
- Deploying AI effectively requires systemic, evidence-informed strategies. Millions of children attend school without acquiring essential skills, and AI tools currently offer limited evidence of long-term effectiveness. Governments and educators must combine safe, scalable tools, robust data standards, expanded connectivity and inclusive solutions to support learning while safeguarding pedagogy and ensuring marginalized learners are not left behind.

- Equitable, human-centred AI depends on multilateral cooperation. Partnerships, capacity-building and shared standards—guided by principles of inclusion (UNHCR), illumination of opportunities and dilemmas (UNICEF), and equity (ITU)—are essential to ensure AI serves all learners responsibly, ethically, and sustainably.

Summary of the session

Moderated by Ms Stefania Giannini, this session explored the theme 'Disruptions, dilemmas and directions' in AI and education. Representatives from UNHCR, UNICEF and ITU were invited to share their perspectives on the disruptions and dilemmas in the use of AI for education from their organizational standpoint and how their organizations are engaging with AI to transform the way they work.

Ms Ruvendrini Menikdiwela stressed that while AI in education holds transformative potential, it also carries serious risks for refugees, such as biased algorithms, misuse of personal data and unchecked misinformation. For UNHCR, these are not just technological concerns but human rights issues, as they can deepen the exclusion of already vulnerable populations.

To address this, UNHCR applies a protection lens to its AI engagement, focusing on three priorities: (1) establishing 'Rights-based safeguards' to ensure informed consent, data protection and transparency; (2) promoting context-aware, co-designed AI systems that provide quality, localized information while preventing harmful content; and (3) creating opportunities for self-reliance through initiatives like Connectivity for refugees and partnerships such as Vodafone's Instant network schools, which extend affordable, connected education to millions of displaced learners.

Mr Thomas Davin underlined the urgency of the global learning crisis, noting that millions of children are in classrooms without acquiring essential skills. While AI tools such as ChatGPT hold strong promise to enhance learning, their long-term effects on pedagogy, teacher–student relationships and classroom structures remain uncertain, and most ed-tech solutions still lack robust evidence of effectiveness. The dilemma, therefore, is how to leverage AI's potential without relying on unproven tools or undermining the broader social role of education.

UNICEF approaches AI in education through a systemwide strategy focused on frameworks, infrastructure and solutions. It supports governments in developing standards for data safety, ownership and accountability; works to expand connectivity by mapping 2.2 million schools across 42 countries and reducing costs through pooled procurement; and scales proven, safe, and sustainable innovations. A flagship example is Accessible Digital Textbooks, which use AI to digitize content far faster and cheaper, enabling speech-to-text and sign language for learners with disabilities.

Ms Irene Kaggwa emphasized that while AI offers significant potential for education, vast inequalities in access remain. Many children still learn in under-resourced environments without internet connectivity, putting them at risk of being further excluded, particularly those already marginalized, such as children with disabilities. The challenge is to ensure that all learners can benefit equally from AI to prepare for the jobs of the future. To address this, ITU and UNICEF launched the Giga initiative to accelerate universal school connectivity.

ITU's engagement with AI also centres on partnerships, capacity-building and standard-setting. Through the 'AI for Good' forum and the AI Coalition, ITU convenes over 60 partners to provide training and promote ethical, human-centred approaches to AI. As the UN's standard-setting body, ITU works with UNESCO to advance ethics across UN projects and welcomed the UN resolution on AI governance as an opportunity to bring governments, the private sector and civil society into a shared global dialogue.

The session concluded with a final question from Ms Giannini, asking each organization to identify one word that best captures the most important direction for multilateral cooperation on AI in education. In response, UNHCR chose ‘Inclusion’, emphasizing that no learner (especially refugees) should be left behind. UNICEF selected the word ‘Illuminate’, stressing the responsibility to highlight both the opportunities and the dilemmas of AI, guiding collective alignment towards the best direction for children worldwide. Finally, ITU highlighted ‘Equity’, highlighting the need to equalize opportunities so that no learner is left behind.

3.2 Plenary panel 1



The new grammar of learning: How is AI rewiring curriculum, pedagogy and assessment?

Date: 2 September 2025
Time: 15.30-16.45
Venue: Room I
URL: https://youtu.be/yd17A-vsZo8?t=5780

Key messages

- AI must enhance, not replace, human-centred education. Its value depends on how it is used: supporting creativity, relationships, inclusion and trust, while safeguarding pedagogy and the unique role of teachers (Ms Isabelle Hau; Luxembourg; United Kingdom of Great Britain and Northern Ireland). Education systems must prioritize human flourishing over technological capability.
- Evidence, safety and access are essential for effective AI integration. Millions of learners are already using AI tools, but long-term effectiveness remains limited (Ms Hau). Governments and educators must combine robust standards, connectivity, inclusive tools and independent research to ensure AI supports learning outcomes and equitable

MODERATOR

Mr Borhene Chakroun
Director, Division for Policies and Lifelong Learning Systems, UNESCO

SPEAKERS

Ms Isabelle Hau
Executive Director, Stanford Accelerator for Learning, United States of America

H.E. Mr Claude Meisch
Minister of Education, Children and Youth, Luxembourg

H.E. Mr Stephen Morgan
Minister for Early Education, United Kingdom of Great Britain and Northern Ireland

Mr Simon Leung
Vice-Chairman, NetDragon Websoft

opportunities (United Kingdom of Great Britain and Northern Ireland; Luxembourg; Mr Simon Leung, NetDragon Websoft).

- Collaboration across governments, educators, and the private sector is critical. Clear frameworks, partnerships and multilateral cooperation—including standards, national strategies and ethical guidelines—are necessary to align AI initiatives with local contexts, protect learners, and ensure AI serves education responsibly and sustainably.

Summary of the session

Moderated by Mr Borhene Chakroun, the session opened with an introduction by Ms Isabelle Hau. The ministers from Luxembourg and the United Kingdom of Great Britain and Northern Ireland then reflected on how they see AI beginning to change education globally, how these developments are currently viewed and anticipated within their own national education systems, and how education systems can be prepared to engage with AI effectively and securely while empowering both learners and teachers. The Vice-Chairman of NetDragon Websoft also shared the company's experience and outline its current initiatives in this field, highlighting its vision for leveraging AI to address global challenges in education and to pioneer innovative solutions. The session concluded with an interactive Q&A.

At the start of the plenary panel, Ms Isabelle Hau set the scene by stressing that the most important question is not what AI can do, but what humans must never forget to do. Education is the sector with the highest adoption of AI, while evidence on generative AI in education is still limited, with only 35 randomized controlled trials to date, underscoring the need for cautious and intentional design.

AI's impact depends less on the tool itself than on how it is used. While entry-level jobs most exposed to AI are declining, roles requiring creativity, collaboration and human judgment are growing, meaning education systems must prepare learners for unique human capacities.

Ms Hau outlined key tensions between dependence vs deeper learning, equalizer vs amplifier, efficiency vs pedagogy, and automation vs augmentation, and argued that the central task is to design AI for human flourishing. Framing AI as part of a co-evolutionary ecosystem, she identified four priorities: (1) co-engagement (fostering creativity and exploration), (2) co-learning (amplifying human relationships), (3) co-equity (intentionally designing for inclusion), and (4) co-verification (rebuilding trust through critical questioning).

The future of education will not be measured by machine intelligence but rather by human depth, ensuring AI remains a catalyst for learning while humanity stays at the heart of education.

The moderator then shifted to the two ministers, asking their perspective of how AI is beginning to change education globally and within their own national education systems, and how education systems can be prepared to engage with AI effectively and securely while empowering both learners and teachers.

H.E. Mr Claude Meisch emphasized the need to strike a balance between investing in AI and supporting teachers, noting that such dilemmas require concrete answers. Drawing parallels with earlier debates on smartphone and social media use in schools, he stressed that pedagogy must always come first.

AI is already a reality in classrooms, used by teachers, students and parents, but it cannot be the sole response to educational challenges such as equity and student success. In Luxembourg, this principle has led to the development of a national framework and strategy for AI in schools. The approach ensures that students first build their own skills and critical thinking before relying on AI tools. Only

once they have developed independent judgment should AI be used to accelerate learning and improve outcomes. The strategy, to be presented in the coming weeks, will be discussed with teachers, parents, unions and school leaders to ensure broad support and effective implementation across the education system.

H.E. Mr Claude Meisch explained that his country has developed an AI framework for schools, to be shared with teachers, parents and school leaders. The framework aims to maximize the pedagogical benefits of AI while addressing risks such as data protection and the uncertainty teachers currently feel about what tools are safe and authorized. He emphasized the importance of building teachers' confidence by guiding them toward approved programmes that comply with standards.

At present, many teachers are experimenting with AI, but clear evidence on its effectiveness is lacking. This is why international exchanges, such as UNESCO's Digital Learning Week, are vital for sharing experiences and co-developing solutions. Luxembourg will soon launch an 'AI Kompass' to provide clear guidance, ensure tools are accepted in classrooms and evaluate whether they genuinely improve teaching quality.

AI can also support school administration and teachers' workload in the 'back office,' freeing educators to focus on what matters most, which are direct contact with students and supporting their learning.

H.E. Mr Stephen Morgan emphasized that AI is no longer a curiosity, but an everyday tool already used by nearly half of teachers. While challenges remain, AI offers significant opportunities to enhance learning if integrated safely and effectively. The British government has adopted a safety-first approach, working with industry leaders such as Google, Microsoft and Amazon Web Services to establish the world's first national safety standards for generative AI in education. These standards prioritize child-centred design and protection from harmful content.

Alongside safety, the government is investing in innovation and evidence. Initiatives include the Education Content Store (a £3 million library of high-quality data to train AI tools aligned with the national curriculum) and targeted funding to support ed-tech innovators in developing classroom-ready solutions. Pilot projects are underway to test tools that reduce teacher workload, provide personalized feedback and support child development, while the EdTech Evidence Board is assessing efficacy and inclusivity.

AI must assist, not replace, teachers, whose unique role in education remains essential. By combining rigorous safety standards, research and investment, the United Kingdom of Great Britain and Northern Ireland aims to ensure AI enhances learning outcomes, reduces workload and benefits students equitably, while contributing to global discussions on standards and best practices.

The minister also highlighted the importance of learning from global best practices, citing examples such as the Republic of Korea's community of practice model that brings educators together to share knowledge and approaches. In the United Kingdom of Great Britain and Northern Ireland, efforts are still in the early stages, but there is strong practice emerging across schools. These initiatives run in parallel with a broader review of curriculum and assessment, aimed at ensuring that young people gain the skills needed for life and work, supported by closer partnerships with schools and colleges.

The discussion then turned to the private sector, with Mr Simon Leung invited to share the company's experience and current initiatives. He explained that NetDragon Websoft began as a gaming company and later expanded into education about ten years ago by acquiring Promethean, a British-based provider of interactive classroom technology. Today, their solutions are present in approximately one million classrooms worldwide. Building on this experience, NetDragon Websoft is now integrating AI into classroom tools such as the Promethean panel to support teachers in lesson preparation and delivery. In addition, the company is exploring emerging technologies such as

blockchain and Web3 to create innovative educational ecosystems.

Mr Leung then introduced a video presentation highlighting global challenges of content creation in education, including shortages, uneven distribution and the dominance of English-language resources. To address these gaps, NetDragon introduced the idea of an 'AI content factory', guided by three key elements: (1) drawing on global expertise, (2) supporting the entire content creation journey, and (3) keeping human feedback at the core. He also outlined exploratory initiatives, such as supporting Thailand's Education 6.0 transition through AI and developing a 'learn and earn' community in partnership with OpenQ, which integrates economic incentives for learners and recognition for educators.

During the Q&A session, participants raised several important questions. One question was about the role of ministries, NetDragon Websoft and initiatives such as Giga in facilitating AI learning, apprenticeships and internet connectivity. In response, the Minister of the United Kingdom of Great Britain and Northern Ireland stressed that access is a critical issue. He explained that the country has heavily invested in the 'Connect the classroom' programme to ensure strong connectivity in both rural and urban areas, breaking down barriers so that all children can access high-quality teaching and resources. Complementing this, the Vice-chairman of NetDragon Websoft noted that as a tech company, their responsibility is to provide platforms and infrastructure, but that they must work closely with governments and educators to align with local needs and regulations. He underscored that ministries must provide direction, while companies like NetDragon Websoft enable the implementation.

Another question addressed how AI initiatives in education align with the United Kingdom's Online Safety Act, and, although the United Kingdom of Great Britain and Northern Ireland is no longer part of the European Union, whether they still comply with European Union AI regulations. The British Minister emphasized that safety is the priority, noting that the country has worked with major tech companies to set safety standards as benchmarks and sees multilateral cooperation (including UNESCO's role) as vital. To advance this agenda, the United Kingdom will host an AI event alongside BETT next January. He also highlighted the Prime Minister's AI Opportunities Action Plan, which brings together efforts across governments to align safety, regulation and innovation, while ensuring robust systems for data management and safeguarding. From the private sector perspective, the Vice-chairman of NetDragon Websoft emphasized strict adherence to data privacy laws, referencing General Data Protection Regulation (GDPR) as an example in the European Union.[3] He suggested that countries will increasingly develop their own education-specific large language models that comply with national cultures, laws and regulations.

A final question focused on privacy concerns raised by classroom technologies like Promethean and on the ownership of licenses for educational content, especially open resources. Addressing this, Isabelle Hau shared insights from Stanford University, where there is an ongoing debate about whether to partner with private large language model companies like OpenAI. Some scholars resist such partnerships, while others see them as essential. She highlighted a forthcoming nationwide study in Estonia with OpenAI as an example of how independent research can help build trust, ensuring that the impact of AI on learning and student well-being is assessed transparently and with accountability.

3.3 Plenary panel 2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New worlds of learning: How is AI reshaping the learning futures of students?

Date: 3 September 2025
Time: 09.30-10.40
Venue: Room I
URL: https://youtu.be/y8uWA7bhuvA?t=2437

MODERATOR

Ms Shafika Isaacs
Chief, Section for Technology and AI in Education, Future of Learning and Innovation Division, UNESCO

SPEAKERS

Mr Andreas Schleicher
Director for Education and Skills, OECD

H.E. Ms Fadhlina Sidek
Minister of Education, Malaysia

H.E. Mr Shri Mahipal Dhanda
Minister of Education, Government of Haryana, India

Mr Geoffrey Alphonso
Chief Executive Officer, Alef Education

Ms Joleen Liang
Co-Founder, Squirrel Ai

Key messages

- AI can support learning engagement, but it cannot replace the social, emotional and human dimensions of education. Education systems should focus on complementing human skills—such as creativity, judgment and empathy—rather than outsourcing learning to machines (OECD; Geoffrey Alphonso, Alef Education).
- Human-centred, ethical and inclusive AI design is essential to protect learners and promote equity. Strategies include safeguarding children, strengthening teacher agency, supporting multilingual and low-bandwidth learners, and using adaptive tools to expand personalized and accessible learning for diverse student populations (Malaysia; Haryana, India).
- Personalized AI tools can strengthen student agency and critical thinking when guided by teachers and strong learning frameworks. Platforms from Alef Education and Squirrel Ai show how adaptive learning, metacognition and teacher-led data insights can foster self-regulation, ethical reasoning and deeper learning—when AI remains a support rather than a decision-maker (Mr Geoffrey Alphonso, Alef Education; Ms Joleen Liang, Squirrel Ai).

Summary of the session

The session opened with moderator Ms Shafika Isaacs posing the first question to Mr Andreas Schleicher, Director for Education and Skills at OECD, asking how students are learning, how they engage with the curriculum, and how AI and AI literacy are being integrated into the design of OECD's Programme for International Student Assessment (PISA). In response, he emphasized that before discussing AI in education, we must ask what AI is capable of. While AI excels at certain cognitive tasks, such as language use and medical diagnostics, it lacks the social capabilities that are essential in teaching and human interaction. He urged educators to consider how human and AI capabilities can complement rather than replace each other. Current experiments show that AI can make learning more engaging but does not lead to better knowledge acquisition. He concluded that AI is a 'double-edged sword' as it is an effective tool in teachers' hands but one that reminds us to rethink which human capabilities we truly want to nurture and empower through education.

H.E. Ms Fadhlina Sidek explained how Malaysia ensures that AI is used not only ethically but also transparently, and how it promotes equity in education. The Minister responded that Malaysia emphasizes a human-centred approach to AI in education, ensuring technology serves educators and protects children through stronger guardrails against misinformation, discrimination and online harm. Guided by digital education and AI ethics policies, Malaysia promotes ethical, fair and transparent AI use. The country prioritizes data privacy, inclusivity and accessibility, supporting multilingual, low-bandwidth and offline tools for marginalized and special-needs learners. AI is seen as a bridge, not a barrier to quality education, empowering teachers and enhancing traditional learning. Malaysia's policy demonstrates that equity, ethics and innovation can make AI a transformative force for all learners.

H.E. Mr Shri Mahipal Dhanda regarding the state's E-Adhigam initiative, which aims to deliver personalized and adaptive digital learning to students across Haryana. He explained that the programme, launched in 2022, seeks to empower students to learn at their own pace through a tablet-based 'library model.' Each student from grades 10 to 12 in government schools receives a high-performance Samsung tablet equipped with personalized adaptive learning (PAL) software and access to digital content covering 34 subjects. Teachers are actively using the PAL platform to conduct assessments and integrate adaptive learning into classroom instruction. Early results show promising improvements in mathematics, science and languages. The initiative also prioritizes inclusivity by providing accessibility features such as text-to-speech, screen readers and simplified navigation for students with special needs.

The next question was addressed to Mr Geoffrey Alphonso regarding emerging patterns in how students are using the Alef Education platform. He explained that the platform was designed around student-centred AI learning and has identified three key factors driving engagement and achievement: (1) metacognitive skills, (2) motivation and (3) behavioural strategies. The company also reaffirmed that no students learn at the same pace and therefore designed its platform to continuously adapt to each learner's individual pace and needs. He highlighted several key patterns that have emerged from the platform's use. First, today's students are 'digital natives' who prefer interactive and engaging content, which naturally supports the second pattern of 'AI-powered personalization'. A third pattern centres on motivation and student agency. Through gamified elements such as digital rewards and leaderboards, students remain engaged and confident. Guided by AI, they learn to set personal goals, manage their time, think critically and seek help when needed. In short, they were learning how to learn. The fourth pattern, described as 'learning on demand,' reflects the growing adoption of AI tutoring. In pilot programmes across more than 40 schools in the United Arab Emirates, students who used the AI tutor showed higher diagnostic test scores than peers who did not. The most significant insight, however, was that effective use of the tutor depended on students' AI literacy, underscoring that understanding how to use AI is just as

critical as the technology itself. Finally, the company found that consistent and proper use of the platform is the strongest predictor of student success. Beyond academic gains, Alef Education aims to cultivate future-ready skills such as self-regulation and ability to use AI tools independently.

The next question was addressed to Ms Joleen Liang, Co-Founder, Squirrel Ai about how the company fosters critical thinking and ethical reasoning through its platform. She explained that Squirrel Ai combines teacher-guided and self-directed learning, powered by a large adaptive model that personalizes instruction for each student. The platform redefines teachers' roles, enabling them to act as data analysts who guide students by reviewing detailed progress reports and learning data, helping identify areas of improvement and growth. Ms Liang also highlighted the company's MCM (Model of Thinking, Capacity, and Method) framework which integrates subject learning with the development of creativity, critical thinking and communication skills. She further explained that Squirrel Ai operates within a closed and protected ecosystem, preventing distractions such as internet browsing or external games while using built-in gamified features to sustain motivation. Research has shown not only improvements in students' academic performance but also increases in enthusiasm, engagement and self-confidence. The system's AI tutor tracks each student's progress, analyses learning behaviour and remembers past performance, enabling highly personalized feedback. Ms Liang noted that this consistency builds trust among parents, who increasingly rely on the platform as a reliable learning companion for their children.

As a final note, Mr Alphonso concluded by emphasizing that in the age of AI and information overload, helping students become critical thinkers and ethical citizens is more important than ever. He explained that Alef Education's design is guided by three core principles: (1) students must recognize that AI has limits, (2) learn to verify its output, and (3) understand that AI is a tool, not a replacement for human judgment. Maintaining a learner agency, he noted, is central to Alef's approach. The platform encourages students to think deeply through scaffolding, reflective questioning and spaced retrieval, while assessments reward the reasoning process rather than just correct answers. Mr Alphonso added that students are also guided to solve problems in multiple ways, strengthening metacognitive development. Ultimately, Alef aims to ensure that humans, not algorithms, make the final decisions in learning. He closed by calling for collective efforts to ensure that AI is used responsibly and ethically, in ways that advance both human learning and human dignity.

Another final remark was delivered by H.E. Ms Fadhlina Sidek, who once again emphasized that a human-centred approach remains the government's top priority. She explained that Malaysia views AI not as a replacement but as a partner in education, where AI serves as a teaching assistant to teachers and as a 'teammate' or co-intelligence to students. She highlighted Malaysia's key national initiative, DELIMa, the country's digital learning ecosystem that currently supports more than 5.5 million students and half a million teachers. The platform is now being upgraded to DELIMa 3.0, which incorporates AI-powered personalized learning, content curation and learning analytics. Malaysia is also piloting AI chatbots and virtual tutors in the national language to support English learners and facilitate more tailored instruction. To support teachers, the Ministry is implementing AI-powered learning analytics to track student progress in real time. In collaboration with UNICEF, Malaysia is also testing an AI-driven early warning system that uses machine learning to predict dropout risks and recommend adaptive learning pathways based on student performance and interests. This system already covers over five million school students and is being developed as a potential regional model. She also noted that Malaysia is rolling out AI training for teachers through the AI-4-Educators programme and partnering with universities and ed-tech startups to develop localized AI tools. Efforts are also underway to expand connectivity, particularly in underserved regions. The Minister concluded by reaffirming that Malaysia's goal is not only to build digital skills but to empower teachers to be thoughtful, ethical and creative users of AI.

3.4 Plenary panel 3



AI with integrity: Exploring ethics and explainability at scale

Date: 3 September 2025
Time: 14.30-15.30
Venue: Room I
URL: https://youtu.be/y8uWA7bhuvA?t=19936

Key messages

- Major ethical issues in the use of AI in education include responsibility for misuse, data security, algorithmic bias and the loss of local nuance when global models are applied. Risks also arise from experimenting on students without evidence of safety or effectiveness, anthropomorphizing AI and violations of rights related to equality, privacy, quality education and emotional protection. Addressing these requires regular audits, stronger regulations and teacher preparation (Mauritius; Mr Wayne Holmes; Inderpreet Sawhney, Infosys).
- Protecting and embedding cultural and linguistic diversity in AI-driven education is essential for ethical and sustainable adoption. AI systems trained on global datasets often lead to cultural

MODERATOR

Ms Lidija Kralj
Education Analyst, EduConLK

SPEAKERS

H.E. Dr Mahend Gungapersad
Minister of Education and Human Resource, Mauritius

H.E. Mr Sardor Radjabov
Deputy Minister of Preschool and School Education, Uzbekistan

Ms Inderpreet Sawhney
Group General Counsel and Chief Compliance Officer, Infosys

Mr Tony Panetta
Principal Industry Lead Architect, Education, Microsoft

Mr Wayne Holmes
Professor of Critical Studies of Artificial Intelligence and Education, University College London

homogenization by generalizing knowledge in ways that fail to recognize or respect local traditions, languages and practices, undermining inclusivity and contextual relevance. Without localization, AI risks reinforcing inequities and eroding cultural identity (Uzbekistan; Mr Tony Panetta, Microsoft; Mr Wayne Holmes).

- Equitable access and student protection must be prioritized, ensuring all learners—not just a few—benefit from AI. This requires safeguarding learner data, strengthening digital inclusion and preparing teachers and students to use AI responsibly (Mauritius; Uzbekistan; Ms Inderpreet Sawhney, Infosys).

Summary of the session

The session opened with the moderator, Ms Lidija Kralj, posing the question: 'What are the main ethical issues observed in AI use in education?' In response, H.E. Dr Mahend Gungapersad highlighted several key concerns. While AI enables more personalized and adaptive learning, it also raises serious questions about academic integrity, warning against overreliance on AI or its misuse for plagiarism. He emphasized the importance of nurturing critical thinking, creativity and ethical responsibility among learners.

Dr Gungapersad also underlined the growing challenge of data privacy, noting that AI systems depend on vast amounts of student data. There is a need to ensure that such information is collected, stored and used responsibly and transparently, supported by strong legal frameworks such as a data protection act to prevent data exploitation.

Digital inequality is a major concern, requiring stronger efforts to ensure that all learners, regardless of geography or background, benefit equally from AI in education.

Finally, he pointed to the persistent issue of algorithmic bias and fairness, warning that if training data are biased, AI systems may reinforce existing inequities and unfairly disadvantage certain student groups. He recommended investing in inclusive data collection, ensuring diverse representation in AI development teams, and conducting regular audits of AI systems to detect and correct bias.

H.E. Mr Sardor Radjabov said the foremost issue is inequality: cities are well connected, but many rural schools are not, creating gaps in school provision and teacher training. AI must support, not replace, teachers, and governments must ensure equal access to tools and professional development, so that AI does not widen disparities. Data privacy and child protection is non-negotiable and many tools trained on global datasets risk lacking cultural and linguistic relevance. The goal is to embrace innovation while preserving local language, history and values.

Ms Inderpreet Sawhney aligned with a responsible AI approach: systems should be safe, transparent, address bias and hallucinations, and keep humans in the loop, with evolving checks and balances. AI's has the potential for access and inclusion, considering work with Street Child to deliver education during emergencies via digital learning centres powered by AI. The task is to manage ethical risks while using AI to broaden access so that more learners benefit.

Mr Tony Panetta emphasized four key priorities for AI in education. First, safety and security must remain at the core of AI integration in education. Microsoft prioritizes 'safety first' in all AI design and implementation, ensuring that data privacy and child protection are non-negotiable. Second, fairness and equity are essential to ensure that every learner, including those in remote areas, has equal access to educational opportunities, ensuring that no child is left behind. Third, context and agency matter; AI tools must reflect diverse cultural and linguistic realities. Finally, teachers remain central, with AI serving only as an assistant to support both educators and students.

Lastly, Mr Wayne Holmes addressed several additional ethical concerns as follows: first, deploying AI in classrooms without sufficient independent evidence of safety or effectiveness is essentially 'experimenting on children.' Second, he cautioned against the anthropomorphization of AI, noting that portraying AI as a collaborator or 'human-AI hybrid' misleads people about its true capabilities. True collaboration requires parties of roughly equal status and capability, which AI does not and cannot meet. Third, there is a flipped digital divide, where wealthier students gain access to human teachers while disadvantaged students increasingly rely on machines, deepening educational inequality. Fourth, he raised concerns about violations of child rights, including privacy, freedom of expression and protection from commercial exploitation, as children's data are often extracted and monetized. Finally, AI ethics must extend beyond the classroom to address global supply chains, intellectual property theft and the environmental impact of AI systems, calling for greater awareness among educators about these broader consequences.

A follow-up question was addressed to Dr Gungapersad asking how the government of Mauritius ensures that the next generation develops both technical and ethical competencies in AI. In response, fostering an AI-ready generation requires innovation built on two guiding principles: exploring ethics and ensuring explainability at scale. Exploring ethics in AI is not an abstract notion but a moral duty to protect children's rights, promote fairness and transparency, and ensure that no learner is left behind. Ethical AI must serve learning, rather than exploitation, uphold privacy, and reinforce equity and human dignity while maintaining accountability. The principle of explainability is central to building trust in AI. Students, teachers and policy-makers must understand how AI systems reach their conclusions and be empowered to question and interpret those outcomes. Such transparency must extend across all educational tools and systems. Mauritius grounds its approach to ethical AI in education on four pillars: fairness and inclusion, transparency and explainability, privacy and protection, and human-centred accountability. The ministry is integrating AI ethics into school curricula, enhancing teachers' capacities, and promoting students' critical thinking to nurture innovators with integrity. Concluding his remarks, Dr Gungapersad highlighted the necessity of international cooperation, reaffirming that small states like Mauritius depend on global collaboration to promote responsible and trustworthy AI. He reiterated that AI should empower rather than replace educators and must ultimately advance human capacity with integrity, transparency, and respect for human dignity.

The moderator then turned to Mr Radjabov, asking how Uzbekistan's ongoing educational reforms and digital transformations are shaping AI competencies among students and teachers, and where ethical considerations fit into that process. In response, Uzbekistan's approach to AI in education is guided by four key dimensions. First, there is the need to ensure equity and access, noting that connectivity, infrastructure, and equipment gaps persist between urban and rural areas. Uzbekistan is working to close this gap by providing equal resources and opportunities so that every child can benefit from new technologies.

Second, teacher capacity development is a national priority. AI should support teachers, not replace them. In partnership with UNESCO, Uzbekistan is developing a Teachers' Digital Competence Framework to align professional standards with international best practices. The project also provides training and equipment for teacher education institutions. In its pilot phase, 100 teachers in each selected region are being trained, with the goal of reaching about 3,000 teachers nationwide. Collaboration with partners such as the HP IDEA programme and UNICEF Innovation Hub further supports teachers in understanding digital transformation and leading effective AI integration in classrooms.

Third, Mr Radjabov underlined the need to strengthen data privacy and child protection frameworks. The Ministry of Digital Technologies in Uzbekistan, which oversees AI implementation across sectors, is working closely with the education ministry to build robust legislative and regulatory mechanisms ensuring that children's data and rights are safeguarded.

Lastly, maintaining cultural identity remains central to Uzbekistan's vision. While adopting global AI tools, the country seeks to preserve its linguistic and cultural heritage, ensuring that innovation does not come at the expense of national identity.

The moderator next invited Ms Sawhney to share the industry perspective on how safeguarding and explainability features can be integrated into AI tools and processes. Ms Sawhney explained that continuous learning is central to Infosys's ethos, describing the company as 'the world's largest private university.' Infosys aims to build an AI-ready workforce by ensuring every employee attains at least basic AI literacy, while advanced professionals become AI builders and masters. This learning culture also extends to society through Infosys Springboard, an AI-powered education platform with over 10 million learners and a goal of 18 million by 2030. The platform embodies responsible AI principles such as fairness, transparency and safety.

Infosys views AI as a tool to enhance rather than replace human capability, citing productivity gains through its Finacle banking platform. To connect education and industry, Infosys organizes Pathfinder Summer Institutes to train teachers in underserved schools and collaborates with Cambridge University and Stanford's Institute for Human-Centered AI to co-develop ethical AI solutions.

Beyond education partnerships, Infosys also works with policy-makers, standard-setting bodies and organizations such as the World Economic Forum and NASSCOM to promote transparency, privacy and cultural sensitivity in AI regulation. The company has additionally open sourced its Responsible AI toolkit, providing developers with practical safeguards for ethical AI adoption.

Lastly, AI's expansion is inevitable, and the private sector must embrace it responsibly by embedding explainability, safety and fairness into every stage of innovation.

Following the remarks from Infosys, the moderator invited Mr Panetta to share Microsoft's perspective from the industry standpoint. He explained that trust must be embedded by design from the outset of every AI product. Microsoft follows the principles of safety, fairness, accountability, transparency, inclusion, reliability and privacy while putting child safety as top priority. All products comply with international standards such as the COPPA (Children's Online Privacy Protection Rule) and GDPR, and are co-developed and tested closely with educators, regulators and ministries. For example, the newly launched Microsoft 365 for Education (13+) version was designed and tested with teachers to ensure strong safeguards before deployment.

He also highlighted the importance of explainability, citing the Copilot tool, which displays the reasoning behind each suggestion to allow teachers to make informed choices when using AI in classrooms. Microsoft has collaborated on large-scale AI education projects, such as national AI tutor initiatives in the United Arab Emirates and Egypt, and a Copilot K–12 pilot in Australia that incorporated local values within Catholic schools and reduced teachers' administrative workload by roughly nine hours per week.

Lastly, Microsoft is investing significantly in digital-skilling initiatives to support teachers, students and even parents as they adapt to the evolving landscape of AI in education.

A question was then addressed to Mr Holmes on how ethics and explainability can be meaningfully embedded into AI design for education. He responded by cautioning against the assumption that AI's presence in classrooms is inevitable or inherently beneficial, emphasizing that there is still limited

evidence of its positive impact. Before embedding ethics and explainability into AI design, it is crucial to examine what we mean by 'ethics' and 'human values.' While aligning AI with human values sounds commendable, he questioned whose values are being represented and warned against adopting a narrow, Western-centric ethical framework.

Much of the current discourse around AI ethics reflects a utilitarian or consequentialist tradition, but often overlooks other ethical traditions such as deontology, as well as diverse cultural perspectives including Buddhist, Islamic, Confucian, and Hindu ethics. Grounding ethical design in universal human rights, which is an area where UNESCO and the United Nations have long-standing frameworks, could provide a more balanced foundation.

When discussing ethics in AI for education, it is not enough to adopt the standard terminology of the AI field such as explainability, bias, or transparency. Instead, ethics in education must also address the moral dimensions unique to the learning environment. This includes the teacher-student relationship, the protection of learners' agency and dignity, and the ethical implications of introducing AI into that dynamic.

Many current AI applications risk limiting student agency and narrowing the diversity of pedagogical approaches, as most systems are designed around a single model of teaching and learning. More fundamentally, discussions on AI in education should revisit the purpose of education itself: whether it is to produce skilled workers for the future economy or to nurture well-rounded individuals capable of contributing meaningfully to society. Many AI solutions entering classrooms today reflect the assumptions of their developers rather than the broader ethical and educational values that schooling should uphold.

Mr Holmes also addressed the issue of trust in AI, arguing that unlike predictable tools such as calculators, large language models and similar AI systems do not guarantee accurate or consistent outcomes, even with careful input. This unpredictability raises questions about their reliability and appropriateness for classrooms.

Students' growing reliance on AI technologies can undermine their development rather than support it and frequent claims about AI making education more efficient or saving teachers time are largely unsupported by evidence. In practice, teachers often encounter increased workloads due to the need to adjust prompts, review outputs and manage associated challenges such as student misuse.

He concluded by emphasizing that addressing the challenges posed by AI in education requires both top-down and bottom-up approaches. Mr Holmes stressed the importance of clear, practical regulations to govern the use of AI tools in classrooms which are currently being pursued at the Council of Europe. At the same time, it is equally essential to foster strong comprehensive AI literacy among teachers and students.

The session wrapped up with the moderator inviting each panelist to share a brief final remark. The Minister from Mauritius closed by expressing appreciation for the insights shared by the other panelists. The Minister from Uzbekistan emphasized the importance of preparing teachers to use AI responsibly, as they are pivotal in introducing AI to classrooms. Ms Sawhney highlighted that technology can create new opportunities for people with disabilities, as demonstrated by Infosys' Accessibility living lab, which uses AI to empower differently abled individuals. Also, she stressed the importance of embracing AI, noting that our jobs will not be taken by AI itself but by those who know how to use it effectively.

Mr Panetta reflected that AI in education is both a disruptor and an opportunity, stressing the value of embracing it collaboratively, learning together and collectively charting the way forward.

Mr Holmes concluded that teachers must be empowered to critically evaluate AI tools, engage with ethical questions and make informed decisions about their use to ensure thoughtful and responsible adoption.

3.5 Plenary panel 4



Harnessing AI for the future of education in Africa: Deepening divides or bridging gaps?

Date: 3 September 2025
Time: 15.30-16.30
Venue: Room I
URL: https://youtu.be/y8uWA7bhuvA?t=23719

MODERATOR

Mr Mohamed Elfarnawany
Director, Division of Priority Africa Coordination, UNESCO

SPEAKERS

H.E. Dr Marie-Thérèse Sombo Ayanne Safi Mukuna
Minister of Higher and University Education, Scientific Research and Innovation, Democratic Republic of the Congo

Ms Kedrace Turyagyenda
Permanent secretary for Ministry of Education and Sports, Uganda

H.E. Mr Dino Ballotti
Deputy Minister of Education, Innovation, Youth, Sports, Arts and Culture, Namibia

Mr Tianchi Li
Founder and CEO. CODEMAO

Key messages

- AI in African education must be nationally led, culturally grounded, and shaped by local realities rather than imported models. Countries highlighted the importance of context-specific strategies — from Uganda's whole-of-government coordination to Namibia's indigenous knowledge-centred approach and the Democratic Republic of the Congo's participatory AI readiness process — ensuring AI reflects African priorities, languages and values (Uganda; Namibia; Democratic Republic of the Congo).
- Whether AI narrows or widens educational divides depends on infrastructure, capacity, trust and sustained investment. Limited connectivity, funding pressures, skills

shortages and skepticism toward digital tools remain major barriers, while initiatives such as offline learning platforms, teacher training, expanded connectivity and localized AI curricula demonstrate practical pathways to improve access, inclusion and system readiness (Uganda; Namibia; Mr Tianchi Li, CODEMAO).

- AI should strengthen human agency and education systems through teacher empowerment, cultural relevance and strategic partnerships. As such, AI must support — not replace — educators, foster creativity, enable learning in local languages and reflect African identities, while partnerships across governments, regional peers, private sector actors and international organizations are essential to scale innovation, share best practices and ensure African-led solutions shape the global AI in education agenda (Namibia; Democratic Republic of the Congo; Mr Tianchi Li, CODEMAO).

Summary of the session

The session moderator, Mr Mohamed Elfarnawany, first invited Uganda to share its perspective on how AI is being utilized in education and how the country envisions its challenges and future opportunities.

Responding to this question, Ms Kedrace Turyagyenda explained that Uganda, a landlocked East African nation with a population of 46 million, half of whom are under 18, considers education a top national priority, particularly in ensuring quality learning opportunities for its young and refugee populations.

AI has not yet become a central component of Uganda's education system, as it is currently in the preliminary stage of embracing AI across its education structures. The government is preparing to integrate it through the Digital Learning Agenda Strategy, developed under the Ministry of ICT and National Guidance.

Ms Turyagyenda outlined the main challenges, including infrastructure limitations (i.e. electricity and internet access in rural areas), funding shortages due to competing national priorities such as health and water supply, and digital capacity gaps among teachers. She also mentioned equity and ethical concerns, and some internal resistance from educators and administrators being skeptical on the integration of AI and technology in education.

Looking ahead, Uganda is developing AI policies and guidelines to steer responsible investment and use, extending teacher training in AI and digital literacy both in pre-service and in-service programmes, and establishing ethical and data protection protocol aligned with the Ugandan Data Protection Act and UNESCO's ethical frameworks. The government is also supporting young local innovators who are creating AI-based solutions tailored to local needs.

H.E. Dr Marie-Thérèse Sombo Ayanne Safi Mukuna explained that the Democratic Republic of the Congo, a large and resource-rich country with abundant human capital, 60 per cent of whom are youth, is striving to build a performative, inclusive and equitable education system. While the government recognizes the importance of AI, decades of conflict have limited its capacity to launch large-scale initiatives, making international partnerships essential to advance its higher education vision.

AI is gradually being mainstreamed to enhance educational efficiency and personalization, enabling teachers to adapt instruction to learners' individual pace. The first notable application of AI was the automated grading of final examinations, which significantly improved the trustworthiness and consistency of results while maintaining human oversight, with grades released within days.

AI has also been used to support inclusive school programme development and open and remote learning, supported by UNESCO's strategic framework.

At the higher education level, universities in Kinshasa are using AI tools for student performance tracking and administrative management, including registration systems. However, progress remains at an early stage.

The Minister identified major challenges such as infrastructure and connectivity deficits, shortages of specialized skills, low digital awareness, weak ethical and regulatory frameworks, and cultural resistance among educators and students.

Looking ahead, AI must directly respond to education sector needs by supporting inclusive content development - especially in local languages - and by enabling personalized learning pathways. Developing a national AI model reflecting local linguistic and cultural contexts will be key to ensuring relevance and sustainability. With sufficient funding, the country can make tangible progress toward an equitable and future-ready education system.

The discussion then turned to Namibia, which responded through a video featuring an avatar of H.E. Mr Dino Ballotti. He shared Namibia's progress in harnessing AI for education, recalling his role as Deputy Chairperson of the Presidential 4IR Task Force (2022), which produced comprehensive recommendations on the use of emerging digital technologies in education.

Namibia has renewed its focus on human-centred, ethical and culturally grounded AI development, as reaffirmed during the UNESCO AI RAM (Readiness Assessment Methodology) report. Namibia is working closely with local and international partners, including academia, AI startups, ministries and public enterprises, to ensure that AI becomes a catalyst for inclusive and equitable education. Importantly, AI should serve as a supportive tool rather than a replacement for teachers, and that its benefits must reach rural and marginalized communities.

To this end, several initiatives are underway. The EduVision project, a privately sponsored initiative, has connected 22 schools to the internet, enabling online lessons for over 12,000 learners and 500 teachers. The National Commission on Research, Science and Technology has established e-learning PLATO centres in six of the country's fourteen regions. Namibia is also partnering with CODEMAO to integrate coding and AI into curricula and to provide tablet donations to schools.

Through the UNESCO–Korea-Funds-in-Trust project and the GIGA initiative, Namibia is expanding access to computers, connectivity and teacher–student training to strengthen ICT readiness. The country also places strong emphasis on indigenous knowledge systems, ensuring that AI integration remains inclusive, contextually relevant and culturally respectful.

Namibian universities are likewise contributing to this momentum: the Namibia University of Science and Technology offers multiple AI-related programmes, while the University of Namibia has established an AI and robotics accelerator lab. A local startup, YYeni AI, has developed a teacherless classroom model showing measurable improvements in student performance. Meanwhile, Namibian parliamentarians are receiving UNESCO-supported training on AI literacy, ethics and policy formation.

Mr Ballotti concluded that AI in education must be a collective national endeavour, uniting government, academia, the private sector and communities through smart partnerships to responsibly integrate this new technological reality into Namibia's education system.

The moderator then invited Mr Tianchi Li to share CODEMAO's vision, success stories, and how its programmes and curricula are adapted to local and national contexts in Africa.

Mr Li explained that CODEMAO's core mission is to enable children to experience the joy of creation through technology and coding. Every child around the world should have the opportunity to learn about technology and AI, which are essential skills in today's era.

Reflecting on ten years of experience, he highlighted three key lessons drawn from CODEMAO's engagement in Africa.

First, infrastructure remains a foundational issue. To reach learners in rural areas with limited connectivity, CODEMAO provides offline versions of its platform and supports low-cost devices such as tablets and mobile phones. In collaboration with OPPO, CODEMAO has donated 1,000 tablets across five African countries over the past two years to support digital learning access.

Second, relevant and localized curricula are vital. Mr Li shared a story from a recent study tour, where a student from Côte d'Ivoire used AI and coding to design a traditional wooden face mask from their local culture, illustrating the power of culturally inspired learning. He related this to his own experience of discovering coding through a game based on the Three Kingdoms, emphasizing that education becomes most impactful when it connects with learners' cultural roots.

Third, capacity building for teachers is essential. Addressing the common question of whether AI could replace teachers, he stressed that AI will never replace the human presence of educators, who provide care, guidance and emotional connection. Instead, AI can support and empower teachers. Over the past three years, CODEMAO has trained over 500 teachers across five African countries, enabling more than 10,000 students to access quality coding and AI education.

At the start of the second round, the moderator invited H.E. Mr Dino Ballotti to offer additional reflections following his earlier remarks delivered through an avatar.

Mr Ballotti acknowledged that Namibia is not yet where it aspires to be and emphasized the country's openness to 'smart partnerships' with more advanced nations to accelerate progress. Namibia was the first country in Southern Africa to conduct a national AI readiness assessment, and is currently developing a comprehensive national AI strategy. He invited further collaboration with partners and expressed interest in engaging in offline discussions to advance these initiatives, including in regards of a national AI institute.

Namibian problems require Namibian solutions, reflecting the belief that every nation must develop approaches suited to its own realities and dynamics. AI development must also remain led by humanity first, ensuring that technology serves people rather than the other way around.

In his concluding remarks, Mr Ballotti noted that Namibia, though a young nation with a vast territory and small population, continues to face educational challenges - with some young learners still studying under trees. He stressed the urgent need to provide these youth with opportunities to compete globally, while maintaining that 'Namibian problems need Namibian solutions.'

The moderator then invited the Democratic Republic of the Congo to elaborate on how AI could be further developed in partnership with UNESCO, and to what extent the AI RAM report could inspire good practices for the country and other countries in the subregion.

The Minister explained that the development of the RAM report was a participatory process, engaging multiple ministries, industry representatives and teachers. This inclusive approach enabled the identification of the country's strengths, weaknesses and opportunities in AI. As a result, AI has become a strategic sector in higher and university education. Building on the assessment, the Democratic Republic of the Congo has worked to strengthen its entire AI value chain by training new talent in engineering, semiconductors and electronics, developing national digital infrastructure, and promoting tailor-made AI solutions adapted to local needs. Through this process, the country

identified three key pillars to transform AI into a driver of socioeconomic progress: 1) industrialization, 2) human resource development, and 3) national support mechanisms.

The Democratic Republic of the Congo has since defined priority actions within its digital transformation projects which are support for 1) research centres in national universities, 2) startups, 3) providing subsidies and institutional strengthening, and 4) building capacity for teachers, students and civil servants.

Responding to the moderator's second question, she emphasized that the RAM is systematic and inclusive, bringing together ministries and key stakeholders while aligning with socioeconomic factors to promote human capital development and industrialization. She encouraged other countries to replicate this model as a best practice.

African countries should work toward coherent, comprehensive and inclusive national AI strategies that strengthen national infrastructures and training systems to foster and retain domestic talent. AI should be applied across key sectors such as education, health, agriculture and finance, while maintaining strong ethical and regulatory safeguards.

Concluding, she reaffirmed that the Democratic Republic of the Congo stands ready to share its experience and cooperate with other nations to co-develop AI for education, equity and the socioeconomic development of the African continent.

The moderator then invited Uganda to reflect on how the development of its national AI strategy is influencing the country's education system and policies - particularly in equipping schools, universities and educators with the skills, tools and ethical frameworks needed to prepare learners for an AI-driven future.

Ms Kedrace Turyagyenda noted that while Uganda's education system may not yet be fully prepared for the rapid and powerful wave of technological change, young people are already engaging with AI and producing impressive results. Uganda's key concern has been ensuring that AI aligns with national ethics and values, and that research conducted by young scholars remains authentic and trustworthy. These reflections led the government to develop the National Artificial Intelligence Strategy under the Ministry of ICT and National Guidance.

Uganda adopts a whole-of-government approach, meaning that when one sector undertakes an initiative, all relevant ministries and agencies participate. The national AI strategy thus seeks to maintain a balance between innovation and ethical data governance, while ensuring that key sectors - education, health, agriculture and finance - are well aligned. The strategy aims to build a digitally skilled workforce and to develop localized AI tools in Ugandan languages for responsible piloting in schools and other institutions.

It also aligns with the competence-based curriculum and the Technical and Vocational Education and Training (TVET) Act, which together promote skills and industry-based learning.

The education sector not only contributed to the development of the national AI strategy but also launched its own Digital Agenda Strategy in Education, outlining how education contributes to national AI goals while addressing sector-specific needs such as curriculum modernization. Efforts are underway to integrate AI, data science and computational thinking into curricula across all levels of education.

Uganda aligns its work with the frameworks of UNESCO, African Union and East African Community. Teachers are being involved from the outset so they can directly benefit from and help shape AI implementation. Infrastructure and investment projects are ongoing to build AI capacity and research facilities, with AI labs already established at Makerere and Victoria universities. Ugandan

universities have also participated twice in Huawei-supported international competitions in Shenzhen, where students from regional universities have received top innovation awards.

She concluded that the government continues to refine these initiatives to ensure that student-developed AI projects are aligned with the national strategy, advanced to prototype level and applied in real classrooms. While challenges remain, Uganda is making steady progress in a human-centred and ethical direction, striving to ensure that even in the age of AI, learning remains a deeply human experience.

The moderator concluded the discussion by inviting Mr Tianchi Li, to share how the company ensures that AI tools are used in an inclusive and equitable manner in education. Mr Li emphasized that AI should not be viewed as a tool for adults to simply transfer their knowledge into children's minds, but rather as a means to help learners discover and express themselves.

Over the past decade, CODEMAO has empowered 38 million students in the People's Republic of China by training 200,000 teachers across 70,000 schools in coding and AI literacy. Through this experience, he observed that the most important factor is not the curriculum itself, but providing an environment where children can explore and play - the way they naturally learn.

He explained that CODEMAO's model is built around four key components: 1) a nonprofit software platform, 2) an AI literacy curriculum, 3) a teacher training plan and 4) an AI tutor system.

The AI tutor, powered by large language model capabilities, is becoming increasingly effective, particularly in contexts such as Africa, where teachers may not yet have deep knowledge of AI. In such settings, the AI tutor can support teachers in guiding students' understanding of AI concepts.

Mr Li also highlighted CODEMAO's collaboration with UNESCO's Priority Africa and External Relations Sector. Together, their initiatives aim to motivate students across Asia and Africa to learn more about AI and coding in an inclusive and engaging way.

The session concluded with an intervention from H.E. Ms Monique Van Daalen, Ambassador of the Permanent Delegation of the Kingdom of the Netherlands to UNESCO. As Co-Chair of the Group of Friends for Priority Africa, she commended UNESCO for convening this Digital Learning Week session in close collaboration with African partners and expressed appreciation to the distinguished ministers and representatives for their valuable insights.

The Ambassador reaffirmed the Kingdom of the Netherlands' call for the international community to actively support African States in implementing UNESCO's Strategy for Priority Africa, particularly through Flagship Programme 4: 'Harnessing new and emerging technologies for sustainable development in Africa.' She acknowledged both the significant opportunities and the profound challenges that AI presents, and underscored her country's commitment to a responsible and human-centred AI governance guided by four key principles: safety, fairness, human well-being and sustainability.

Since 2019, the Kingdom of the Netherlands has advanced these priorities through the AI Coalition for the Netherlands, which unites government, academia, the private sector and civil society to promote an AI ecosystem that benefits society as a whole. Finally, the Ambassador called for continued dialogue, collaboration and responsible innovation to unlock AI's potential while preventing its misuse, striving together for a safer, fairer and more prosperous future for all.

3.6 Fireside chat



Challenging automated inequalities: Co-creating equitable learning futures with AI

Date: 4 September 2025
Time: 10.15-11.15
Venue: Room I
URL: https://youtu.be/j96F_MGZvew?t=2860

MODERATOR

Ms Asha Singh Kanwar
Chair of the Governing Board, UNESCO-IITE

SPEAKERS

Ms Anicia Peters
CEO, National Commission of Research, Science and Technology, Namibia

Ms Lisa Parks
Distinguished Professor, Social Sciences and Media Studies and Director, Global Media Technologies and Cultures Lab, UC Santa Barbara

Mr Daniel Wagner
UNESCO Chair in Learning and Literacy and Professor of Education, University of Pennsylvania

Key messages

- Existing social, linguistic and cultural inequalities are being encoded into AI systems, as most tools privilege dominant languages, Global North norms, and commercially valuable users while excluding small-language communities and marginalized learners. Bias in data, design and metrics risks making exclusion faster, larger in scale and harder to detect unless equity is intentionally prioritized (Ms Asha Singh Kanwar; Ms Anicia Peters; Mr Daniel Wagner).
- Ethical principles and corporate commitments require stronger accountability and education-specific oversight, as bias remains embedded in many AI tools despite public claims of fairness and ethics. Researchers, regulators, nonprofits and

emerging AI safety institutes play a key role in evaluating real-world impacts, contextualizing safety frameworks for education, and challenging data practices and indicators that often marginalize already excluded populations (Ms Lisa Parks).

- More equitable AI depends on decentralized, participatory and locally grounded development, recognizing that AI reflects the values and power structures of its creators. Countries and communities are encouraged to invest in local developers, culturally relevant data, community co-design, and critical AI education that addresses infrastructure and geopolitics—starting with the needs of the most marginalized, in line with the principle that supporting the poorest strengthens outcomes for all (Ms Anicia Peters; Mr Daniel Wagner).

Summary of the session

The moderator Ms Asha Singh Kanwar opened the discussion by setting out the global context in which inequalities intersect with the growing use of AI-driven systems. According to the ITU, 2.6 billion people remain offline, while UNESCO research reveals that 44 per cent of AI systems exhibit gender bias, and that two-thirds of the world's 773 million illiterate adults are women. Algorithms are largely shaped by the perspectives of young developers from the Global North, often unintentionally excluding diverse racial, linguistic and cultural populations. These inequities are 'automated' in two ways: first, because they are embedded in code and data, and second, because once encoded, they can amplify disparities at unprecedented speed and scale.

She then invited Ms Anicia Peters to share her perspective on how such automated inequalities are manifesting in AI-augmented learning systems, and how learning equity might be re-imagined 'by design.' Ms Peters emphasized that Africa's vast linguistic and cultural diversity, coupled with limited connectivity - nearly half of Namibia's rural villages remain offline - creates deep structural inequities in how AI systems are developed and used. Most AI tools and data exist only in dominant global languages, excluding local communities and learners whose education is grounded in native languages and cultures.

Next, Ms Lisa Parks responded by noting that in the United States, various AI tools are being used across universities and schools under major corporate contracts. In response to growing research on racial and gender biases in search engines, facial recognition and large language models, major tech companies have sought to integrate principles (e.g. trustworthiness, fairness, inclusion and accountability) of responsible or ethical AI into their branding and operations. However, she observed that in practice, these companies do not genuinely seek to honour or actualize such principles. Therefore, regulatory bodies and nonprofit organizations must actively monitor and evaluate whether these ethical commitments are being meaningfully implemented. She added that the emerging AI safety institutes around the world should also engage more directly with the education sector to ensure transparency, responsibility and equity in AI deployment.

The final speaker in the first round, Mr Daniel Wagner reflected on the broader historical context of technology and inequality in education. It has been 20 years since the global community declared the digital divide 'overcome' through the One Laptop per Child project, which was once heralded as a solution to the world's educational challenges. While AI offers valuable opportunities for learning and for jumpstarting progress in closing educational gaps, it is not revolutionary in itself. As with previous technologies such as radio, television, social media and the internet, AI holds the potential to both bridge and expand divides.

Many ongoing debates around AI in education concerning ethics, cognitive effects and applications in higher education, primarily address the 'top half of the pyramid,' where solutions are easier to implement. The real challenge lies in addressing deep-seated inequalities affecting the most

underserved populations, urging that efforts to harness AI for education must focus beyond universities to truly advance global learning equity.

For the second round of discussion, the moderator invited Ms Peters to reflect on how design choices in AI systems - including who they are built for, what data is prioritized and which contexts are overlooked - can unintentionally reinforce inequalities.

She responded by stressing the importance of community co-design, a principle practiced at Namibian universities. Creating inclusive systems requires developers to go directly into communities and build solutions with users in their local environments, a process that is time-consuming and not always profitable, but essential for relevance and equity. This same inclusive approach must guide policy development, which in Namibia involves consulting across all 14 regions covering 800,000 km² to ensure no group is left out.

Within Namibia's AI ecosystem, education is often treated as a commercially attractive sector for rapid implementation, which can result in overlooked contexts such as quality assurance, safety, privacy and intergenerational support. Many parents and grandparents are unable to assist children using AI tools in schools, illustrating how design choices that ignore local and social realities can unintentionally reinforce inequality.

She then referred to an experiment by the Namibian startup Yyeni AI, which piloted a teacherless classroom model in several schools. While student performance improved overall, the project revealed important lessons: success depended on learners' self-discipline, improvements varied by subject and teachers remained essential to ensure accountability for what AI systems deliver and to align learning with students' needs.

Ms Peters concluded that locally grounded design and development are essential for creating inclusive and equitable AI systems. She emphasized the need for African developers and context-specific approaches to ensure that AI models reflect local values and realities, rather than relying on imported systems that may not align with regional needs.

The next question was directed to Ms Parks, asking how technical, political and planetary infrastructures are often overlooked when discussing automated inequalities, and how making these infrastructures more visible might reshape the way we imagine equity in education.

She responded that it is crucial to recognize the broader systems that sustain AI technologies. Drawing from her experience conducting IT design workshops in the United Republic of Tanzania, Brazil and Zambia, the most impactful learning took place when students went beyond the classroom to engage with elders and community members. Such community-based and intergenerational projects are essential forms of informal education that allow people to test, play with and even fail with AI, helping us understand how technology can truly enhance learning in practice.

She acknowledged the global inequalities in infrastructure, noting that AI in education does not function effectively in all contexts. Between 2013 and 2024, most private investment in AI came from the United States of America, People's Republic of China and the United Kingdom of Great Britain and Northern Ireland, yet only a small share went to education technology, which, though currently a US$8.3 billion market, is expected to grow to US$32.3 billion by 2030, led by North America, Europe and Asia. Such growth depends on the creation of AI data centres, which require specialized chips and GPUs now at the heart of global geopolitical and economic competition.

AI education must move beyond tool usage to include critical reflection on infrastructural inequalities and the geopolitics of AI. These dynamics influence how AI is adopted in education and daily life and can reinforce new forms of inequality, especially in countries where tools such as ChatGPT are restricted. She concluded by noting that global attitudes toward AI remain uneven:

while countries like India, Kenya, Brazil and Mexico express strong optimism, others such as France and the United States of America show mixed or uncertain views, which reveals how understanding of AI's role remains deeply divided worldwide.

The last speaker in the second round, Mr Wagner reflected on whether AI could help advance literacy and learning equity, considering the world's 773 million illiterate adults, and what forms of AI integration could best serve the most marginalized learners.

Discussions around AI in education often focus narrowly on engineering, scaling and cognitive science, while overlooking insights from ethnography and anthropology that examine how people actually learn. Referencing early computer science work by Herbert Simon in the 1960s and 1970s,[4] he noted that even then, teaching computers to play chess required first understanding how humans think and learn which is a principle that remains relevant for AI today.

One of the main barriers to equitable AI in education is language. Around three-quarters of the world's population depends on linguistic diversity, yet 95 per cent of large language model content is concentrated in only five dominant languages. Without deliberate intervention, AI risks reproducing existing linguistic and cultural inequities.

Mr Wagner further pointed to the rapid urbanization occurring worldwide, which is doubling city populations and creating multilingual classrooms where students speak diverse languages that teachers often do not. AI has the potential to address this challenge by supporting multilingual education and helping bridge communication gaps in classrooms.

Quoting Mr Paul Farmer, he concluded that 'if you can help the poorest person in society, you can help everybody better,' emphasizing that truly equitable AI integration must begin with the needs of the most marginalized learners.

In the third round, the moderator invited the panelists to reflect on each other's remarks, asking whether they found alignment in their perspectives or areas of disagreement.

Ms Peters shared that in Namibia, all computer science students are trained in co-design approaches, which require them to engage directly with communities to understand who they are designing for and with. These projects often incorporate ethnographic methods. Men and women engage with technology differently, and depending on the context, the groups most in need of support may vary. For example, in one project, men became the primary focus because women in that community, who worked as farmers, were already comfortable using tools and quickly adapted to tablets. In another case, however, women were identified as the least tech-savvy group and thus became the main participants. These experiences highlight the need for context-sensitive design and for inclusive practices that adapt to the specific realities of each community.

Ms Peters also cited a case where a Namibian student developed a 3D educational game that was well received in Europe and the United States but not in Namibia, as local learners could not see themselves represented in the avatars. She emphasized the importance of decentralizing development so that technological design reflects local people, cultures and needs.

Ms Parks expressed surprise at the lack of systematic consultation with teachers in many AI education initiatives. Teachers must have a seat at the table, and reiterated that contextualization, which means understanding local realities and involving educators meaningfully, is essential to ensuring equitable implementation of AI in education.

Mr Wagner reflected on the historical mission of UNESCO, founded in 1946 to promote human rights, literacy and education, noting that these goals remain unfinished. AI has rarely been linked to literacy, despite its relevance to SDG 4 on quality education. He called for a renewed focus on

learning and literacy-centred approaches to AI, emphasizing the need to start 'from the bottom' focusing on the least advantaged populations, so that global AI efforts truly serve those who matter most.

In the final round, the moderator invited each speaker to share one call to action in a single sentence. Ms Peters emphasized that achieving equity requires a holistic ecosystem that includes talent development, computing infrastructure, device and data accessibility, connectivity, electricity, relevant content creation, research, supportive regulation and enforcement, startup funding and AI literacy for teachers, learners, parents, staff and decision-makers within the education realm.

Ms Parks called for recognizing the deep cross-cultural heritage of teaching, urging that teachers not to be seen merely as trainers of AI but as holders of collective pedagogical wisdom. Teachers often possess a more sophisticated understanding of teaching and learning than AI systems, and that their lived, internalized and unspoken experience must be valued and integrated into discussions on AI in education.

Mr Wagner concluded that literacy and learning should remain at the centre of the global AI and education agenda. He underscored the need to critically reflect on which metrics are used, for whom, and for what purposes, noting that not only communities but also statistics themselves can be marginalized. AI should be used to differentiate in constructive ways that meaningfully contribute to improving education and learning for all.

3.7 Plenary panel 5



Futures thinking, futures being: Exploring possible, preferable and plural education futures

Date: 4 September 2025
Time: 11.15-12.15
Venue: Room I
URL: https://youtu.be/j96F_MGZvew?t=6651

Key messages

- Education in the age of AI should move beyond developing cognitive performance to cultivating wisdom, moral and ethical reflection, and a deeper understanding of what it means to be human, with AI serving as a mirror for human growth that reflects collective consciousness and guides ethical and spiritual development (Ms Bing Song).
- AI governance in education must move beyond reactive risk management toward proactive, values-driven, and democratic models that reduce dependency on large technology corporations, strengthen public oversight and reassert education's social and moral mission (Mr Kalervo N. Gulson).
- AI can support efficiency, creativity, and access to learning, but it cannot replace

MODERATOR

Mr Sobhi Tawil
Director, Future of Learning and Innovation Division, UNESCO and Director a.i., UNESCO International Bureau of Education

SPEAKERS

Ms Bing Song
Senior Vice President, Berggruen Institute and Director, Berggruen Institute China Center

Mr Martín Felipe Cáceres Murrie
Executive Director, Innovation Center, Ministry of Education, Chile

Mr Kalervo N. Gulson
Professor of Education Policy, Centre for AI, Trust & Governance, University of Sydney

Mr Ty Kenworthy
Senior Director for Global Partnerships, Pearson

human relationships, teacher judgment, empathy or contextual understanding; meaningful innovation depends on local relevance, teacher empowerment, learner agency and an explicit moral compass guiding how technology is used (Chile; Mr Ty Kenworthy, Pearson).

Summary of the session

Mr Sobhi Tawil opened the session by emphasizing that education should not be seen merely as a technical matter, but as a relational, cultural, ethical and political one. He framed the discussion around how AI is reshaping the horizons of possibility for the futures of education and invited the panelists to reflect on what kinds of futures are being reimagined and which might be excluded as AI becomes increasingly embedded in educational systems.

He then turned to Ms Bing Song, referencing her think piece in which she argued that in the age of AI, the purpose of education should go beyond cultivating intelligence to nurturing wisdom. He invited her to elaborate on what she means by 'wisdom' in this context.

Ms Song began by emphasizing that AI does not necessarily replace existing educational purposes but rather calls for additional and deeper forms of learning. Quoting a famous line attributed to Einstein, 'We cannot solve our problems with the same thinking we used when we created them', she proposed a new, integrative worldview of co-becoming, where humans and non-humans are understood as holistically connected, mutually embedded and co-generating. This relational view is deeply rooted in Asian philosophical traditions, contrasting with the dominant Western notion of the autonomous, self-contained individual. From this perspective, three implications follow: (1) all beings, including humans, share a common origin, (2) technologies are internal to human existence, and (3) AI's 'intelligence' is merely a reflection of collective human consciousness. In relation to this second point, many of the problems often attributed to technology are in fact problems of human culture and civilization rather than of the tools themselves. The widespread fear of AI is ultimately a fear of humanity, not of technology.

Drawing from the ancient Chinese concept of 'universal camaraderie,' she recalled Zhuangzi's idea that heaven, earth and all things are kin, suggesting that in today's world, even AI systems could be viewed as companions. Yet, this companionship is not emotional dependency or artificial intimacy; rather, true companionship should serve as an honest mirror, prompting human self-reflection, moral awareness and spiritual growth.

This calls for 'wisdom education,' described as the ultimate critical study. Quoting, 'Knowing others is intelligence; knowing oneself is true wisdom,' she stressed that education should move beyond the intellectual paradigm to embrace lifelong inquiry into what it means to be human, exploring the nature of the self, mind and reality through diverse wisdom traditions. She suggested practical ways to cultivate such awareness, such as introducing mindfulness and meditation sessions at the start and end of the school day, allowing students to create mental and physical space from devices and digital stimuli. She concluded that being intelligent is not the end goal but attaining wisdom is what humanity should ultimately strive for.

The moderator then turned to Mr Kalervo N. Gulson referencing his think piece that highlighted the lack of adequate governance in AI and education and his call for 'counter-governance' to resist the dominance of the tech industry in shaping possible learning futures. He was invited to elaborate on what educational governance should look like in this context.

His response began by sharing findings from his research on 500 AI policies worldwide, noting that only 7 per cent directly addressed education. He observed regional differences in policy focus: Europe emphasizes rights and regulation, North America focuses on risk management and

innovation, the Asia-Pacific region blends education and skills competitiveness, the Middle East frames AI as economic transformation and Africa highlights equity through access and inclusion.

AI governance in education remains largely reactive rather than proactive, which is designed to catch up with technological change and manage risks. The sector needs to slow down and reflect on the broader purposes and values that should guide AI governance in education, even though doing so is challenging since education often tends to be an early adopter of new technologies.

He outlined three key directions for the future of AI governance. First, in terms of policy innovation, AI governance must reorient toward the values we want education to uphold, as these are often absent in current policy discourse. Second, in terms of resistance, infrastructure should not be seen merely as physical but as social and political. As private companies deepen their influence in AI and education, democratic and equity goals become harder to achieve, especially since updates and tools are often introduced without input or oversight from educators or institutions. He urged rethinking how to reduce political and economic dependency on tech companies and to imagine alternative infrastructures for education. Third, in terms of democratic forms, he called for rethinking participatory and deliberative models of decision-making in an era where humans and machines jointly make decisions. This may require accepting forms of governance and technology in education that are neither fully controllable nor fully in control.

The moderator then asked about the most constructive role the private sector can play in this era of rapid technological change.

Mr Ty Kenworthy began by noting that Pearson had joined Digital Learning Week not to speak, but to listen. He shared a personal story about his daughter's struggle to adapt to a new learning environment, emphasizing that while technology provided structure and access, it was ultimately a teacher's empathy and human guidance that made the difference.

Pearson does not view itself as an ed-tech company but rather sees technology as a tool to support the delivery of quality education. Listening is fundamental to the learning process, yet it must be paired with professional expertise to turn insights into meaningful action. He acknowledged that not every tool succeeds but stressed the importance of continually refining and improving them to better meet learners' real needs. Finally, he underscored the importance of listening to diverse stakeholders, as not everyone is at the same stage of the learning and technological journey.

The moderator then invited Mr Martín Felipe Cáceres Murrie to reflect on how education systems can move from reacting to proactively envisioning and shaping the futures we want for learning in the era of AI.

He explained that Chile has had a national AI policy since 2021, which provides a comprehensive framework encompassing governance, regulation and infrastructure across all sectors. The policy is structured around three main lines of action: enabling factors, development and adoption, and governance and ethics. One notable initiative emerging from this policy is the creation of a Latin American language model (Latin American GPT), designed to represent the region's linguistic diversity across 448 languages, including Spanish and Portuguese.

Mr Cáceres Murrie stressed the importance of understanding what is gained and what is lost when integrating AI into education. While AI offers timesaving and efficiency benefits, it risks diminishing human agency, particularly when teachers rely entirely on automated lesson plans that fail to account for students' individual contexts and learning levels.

He presented six guiding principles for determining when and how to use AI in education: 1) AI to enhance human capabilities, 2) AI as a tool for thinking, 3) AI to foster creativity, 4) AI from an ethical perspective, 5) AI for equity and inclusion, and 6) AI for active learning.

In Chile, educational innovation is not defined by technology itself. Innovation can happen without technology, yet technology can act as a catalyst for change. Chile's vision for educational innovation is guided by key principles: local relevance, collaboration and participation, addressing challenges, impact on integral learning, sustainability, learning from mistakes and student protagonism as co-designers of the learning experience.

He concluded by citing Chilean poet Gabriela Mistral's words: 'If we do not practice equality and culture within the school, where else can these things be demanded?' To envision the future of education, societies must make their moral compass explicit and ensure that innovation remains anchored in humanistic and ethical values.

The session concluded with a final round in which the moderator invited each speaker to share the most urgent and decisive choice needed to move the futures of education in a desirable direction. Ms Song called for a collective effort to advance wisdom education, Mr Gulson emphasized the need for more inclusive governance that brings diverse voices into decision-making processes, Mr Kenworthy highlighted the importance of including the private sector while also holding it accountable and lastly, Mr Cáceres Murrie underscored the urgency of empowering teachers, who remain central to guiding and shaping meaningful learning experiences.

Think piece links: *Future of education: Going beyond the 'intelligence' paradigm,* by Bing Song, and *Artificial intelligence and governing education: Rethinking democratic action, resistance and participation,* by Kalervo N. Goulson and Sam Sellar.

4. Parallel sessions

4.1 Parallel sessions 1

Parallel session 1.1: UNESCO-IBE's centenary dialogue - The future of curriculum in the age of AI

Date: 3 September 2025 / Time: 10.45-12.15 / Venue: Room II

Context and session description

As UNESCO's annual flagship convening of all stakeholders active in the digital transformation of education, Digital Learning Week 2025 provided a unique opportunity to consider the impact of rapidly evolving AI system capacities for the future of curriculum, pedagogy and learning. Recent developments in AI, datafication and digital platforms are impacting what we teach, our pedagogical approaches, as well as the way in which we assess and validate learning. How then are we rethinking curriculum design, not only to adapt to new technological realities, but also to steer the digital transformation of education in ways that ensure equity, support human agency and capabilities. This dialogue on the centenary of the UNESCO International Bureau of Education (IBE) offered an opportunity to share such experiences from a diversity of contexts around the world. It is only through mutual learning that we can collectively advance new understandings of education as both a fundamental right and a common good in the era of AI.

Key messages

- AI in education requires inclusion and teacher empowerment. Equitable AI integration in education means addressing persistent digital divides, ensuring access across regions and contexts, and offering diverse, context-sensitive professional development. Teachers need not

MODERATOR

Mr Sobhi Tawil
Director, Future of Learning and Innovation Division, UNESCO and Director a.i., UNESCO International Bureau of Education

PRESENTATIONS

Education as a common good: Balancing AI curriculum innovation with equity and inclusion
Ms Helen Crompton
Executive Director, Research Institute of Digital Innovation in Learning, Old Dominion University

Building AI competencies from lower primary schools
Mr Vincent Nyirigira
Director a.i., Digital Content & Instructional Technology Development, Rwanda Basic Education Board

Fostering AI skills in basic education through transdisciplinary and collaborative approaches
Ms Daniela Costa
Education Officer, Regional Center of Studies for the Development of the Information Society (Cetic.br)

The role of human moderation in advancing GenAI-driven curriculum mastery
Mr Corrin Varady
CEO, IDEA Group, South Africa

Between promise and caution: Teachers' reflections on using GenAI in Chinese K-12 classrooms
Ms Li Yuan
Professor, College of Education for the Future; Director, Centre for Connective Intelligence in Education, Beijing Normal University

Empowering teachers for inclusive AI-driven curriculum innovation
Ms Janeth Kigobe
UNESCO Chair on Teacher Education and Curriculum, Open University of Tanzania

only access to AI tools but also practical, hands-on training that empowers them to act as moderators, creators and critical guides. Only teachers can truly humanize learning and ensure that students engage with AI in meaningful, ethical and inclusive ways.

- Human moderation and critical pedagogy are essential. While AI can generate content, personalize learning and expand access, its risks - bias, superficiality, ethical concerns and over-reliance - require careful human oversight. Teachers remain central to creating, curating, contextualizing and validating learning as well as fostering critical thinking. Their role is indispensable in ensuring that AI-assisted curriculum innovation strengthens education's humanistic values rather than undermining them.
- Curriculum transformation must balance innovation with social justice. AI offers opportunities for localized, multilingual and scalable learning resources that can widen access and accelerate innovation. Yet, curriculum reform must prioritize diversity, equity and student agency, embedding inclusive and ethical principles at its core. Only by balancing technological possibilities with commitments to social justice can education continue to serve as a fundamental right and a common good in the age of AI.

Parallel session 1.2: Human-centred ed-tech: Designing AI tools for education equity and inclusion

Date: 3 September 2025 / **Time**: 10.45-12.00 / **Venue**: Room IV

Context and session description

What does it mean to design AI for education in ways that genuinely centre human needs, values and voices? This session explored how emerging technologies can be developed not simply for scale or efficiency, but to foster inclusion, equity and meaningful learning. Rather than treating AI as a neutral tool, the discussion highlighted the importance of intentional design where educators, students and communities are active participants in shaping how these tools are imagined, built and used. Questions of safety, accessibility and pedagogical value come to the forefront, especially in contexts where technology often arrives from outside the classroom. This session invited reflection on how co-design, open-source development and collaborative governance can ensure that AI supports educational goals rather than undermining them. Across diverse initiatives, a shared thread emerges: the need to move from top-down implementation to approaches grounded in trust, transparency and shared responsibility. By foregrounding human judgment, ethical presence and local expertise, this conversation opened up space to imagine more inclusive and participatory futures for AI in education.

Key messages

- Learning is not the same as engagement. Too often, developers with no background in education prioritize engagement metrics over genuine learning outcomes. True progress means designing educational AI tools that put people before efficiency, respect cultural nuance and address student well-being. Teachers should be integrated as pedagogical leaders, not treated as safety nets. Students can be empowered as cocreators through age-appropriate methods, such as play-based prototyping, rather than remaining passive

MODERATOR

Mr Prateek Sibal
Programme Specialist, Section for Digital Policies and Digital Transformation, Division for Digital Inclusion and Policies and Digital Transformation, UNESCO

PRESENTATIONS

Designing with AI: How ed-tech startups are shaping the future of inclusive learning
Mr Amin Marei
Lecturer, Harvard Graduate School of Education, Harvard University

Seoul EdTech SoftLab: A scalable cross-sector governance model for AI leadership in education
Ms Jieun Lee
Director, Seoul EdTech SoftLab, Konkuk University

Human-AI collaboration ecosystems: AI community in education
Mr António Pedro Costa
Principal Researcher, Research Centre on Didactics and Technology in the Education of Trainers, University of Aveiro

Co-design to support responsible implementation of AI tools in education
Ms Prerna Ravi
PhD Candidate, MIT Computer Science and Artificial Intelligence Laboratory (CSAIL), Massachusetts Institute of Technology
Mr John Masla
Assessment Specialist, Scheller Teacher Education Program (STEP Lab), Massachusetts Institute of Technology

Designing safe, pedagogically rigorous AI for schools with Open Educational Resources
Mr John Roberts
CEO, Oak National Academy
Mr Will Gayne
Director of Product Strategy & Impact, Oak National Academy

users. Parents and the wider community can serve as safeguards, holding the system accountable and protecting each child's safety and well-being.

- Successful educational AI tools are built with teachers, not for them. Co-design means involving teachers from the start. Through their classroom insights, they are irreplaceable to develop tools that are actually needed. The process of co-design involves diverse voices, across school sizes, disciplines and contexts. The process begins with interviews to build trust, followed by establishing a shared foundation in AI and ethics. It concludes with the closing of feedback loops, compensating contributions to the teachers, and enabling classroom use of cocreated tools. This transforms participation into a genuine partnership. In doing so, this approach replaces top-down assumptions with human-centred design.
- In schools and universities, students must go beyond simply using AI tools. It must be ensured that they understand how these tools work, their rules and their limits. Integration, rather than prohibition, prepares learners for real-world research. Education should separate AI output from student input, fostering skills, techniques and critical judgment rather than copy and paste dependency. By teaching the underlying functions and ethical use of AI tools, students can be empowered to be informed, responsible creators in their learning, not passive consumers of machine generated work.

Parallel session 1.3: AI and skills of tomorrow: Reinventing TVET and workforce learning for a changing world

Date: 3 September 2025 / Time: 10.45-12.10 / Venue: Room VI

Context and session description

This session explored how AI is reshaping technical and vocational education and training (TVET) and skills development to meet the evolving demands of tomorrow's labour market. Attendees had the opportunity to engage with leading practitioners and researchers to envision scalable, ethical and inclusive AI-driven solutions that equip learners and workers with the competencies required for a rapidly changing world.

Key messages

- Increasing digitalization is transforming industries and domains, having a large impact on the labour market, occupations and tasks within occupations, causing widening skills gaps – these developments together with the green transition are increasing the need for upskilling and retraining, requiring an update and reform of current education programmes and modalities to enhance relevance and quality while shortening the training duration and increasing flexibility.

- Generative AI provides various opportunities to enhance individualized support, tutoring and learning assistance to students as well as to guide teachers' instruction across learning spaces, for example through chatbots. On institutional level AI can be utilized to review, adapt, update

MODERATOR

Mr Mattia Olivari
Project Officer, Section of Youth, Literacy and Skills Development, Division for Policy and Lifelong Learning Systems, UNESCO

PRESENTATIONS

Global Skills Tracker: An AI tool for assessing AI skills demands
Mr Mauro Pelucchi
Head of Global Data Science, Lightcast

AI-empowered entrepreneurship teaching innovation in the er of digital intelligence
Mr Xiaozhou Xu
UNESCO Chairholder in Entrepreneurship Education and Directo Institute of Educational Modernization, Zhejiang University

Empowering personalized learning and assessment in STEM through AI tools
Ms Geok Ling Tan
Senior Academic Mentor, Temasek Polytechnic
Ms Hui Ying Chan
Manager, Temasek Polytechnic

AI curricula for secondary and TVET education in Brazil: A case from Senac São Paulo
Mr Rodrigo Barbosa e Silva
Entrepreneur, Livix and Senior Researcher, Transformative Learning Technologies Lab, Columbia University
Ms Fernanda Yamamoto
Head of Research and Innovation in Vocational Education and Technical Secondary Education, Senac São Paulo

Curriculum innovation with generative AI: Aligning education to labour market needs and future skills
Ms Evghenia Iarina
Strategic Government Partnerships Executive, Coursera

Evaluating the impact of AI-driven instruction on student learning in physics: A case study from the Namibia University of Science and Technology
Ms Leena Kloppers
Senior Lecturer: TVET, Namibia University of Science and Technology

From Readiness to Impact: AI Skilling Pathways for Vocational Educators
Mr Gerardo Franco
AI Skills Director, Southern Europe, Middle East & Africa, Microsoft Elevate

and translate learning content, courses and programmes and to integrate learning of AI and with AI to the curriculum. Safe and productive utilization of AI will require capacity development of institution's leaders, trainers and staff. On societal level, AI provides opportunities on redesigning curriculum, gathering data for evidence and comparing training policies, across countries, regions and languages of instruction.

- More importance and consideration ought to be put into bridging the digital divide, ensuring connectivity and equitable access to AI and enhancing the inclusiveness of the solutions. Concerns of privacy of data, safety of users, plagiarism and quality of AI generated content remain. Digital development provides an opportunity for creating local solutions better fit for purpose, ensuring equity and simultaneously contributing to the increased livelihoods of local communities, enhancement business and entrepreneurial ecosystems and ultimately, betterment of education and training.

Parallel session 1.4: Advancing inclusive education in an era of AI

Date: 3 September 2025 / **Time**: 10.45-12.00 / **Venue**: Room VII

Context and session description

In a time of rapid technological advancements in areas like AI and Machine Learning, equitable, secure and productive use of digital tools in education is more vital than ever.

When thoughtfully implemented, technology can help ease the growing demands on teachers, as well as support better learning outcomes through inclusive learning experiences in the classroom, equipping students for the future of work.

MODERATOR

Ms Alexa Joyce
Senior Manager, Apple Education and Government, Apple

SPEAKERS

Mr Stéphan Vincent-Lancrin
Senior Analyst and Deputy Head, Directorate for Education and Skills, OECD

Ms Aniza Kamarulzaman
Director, Educational Resources and Technology Division, Ministry of Education, Malaysia

Mr Jesse Roy
Director, Education Strategy, PowerSchool

Key messages

Thoughtful implementation of technology in education needs to:

- View technology as a process, not a purchase - locally adapted, equity-driven and focused on system-wide change.
- Ensure connectivity, governance and teacher training for pedagogical intent.
- Equip students with future-ready skills, creativity and critical thinking - the human advantages in an AI world.
- Use data to drive action and improvement, not just reporting.

Other key considerations

- AI holds promise, but the true measure of success is whether every student sees their learning outcomes improved.
- Machine Learning enhances accessibility features, allowing for even more students to personalize their devices.

Parallel session 1.5: AI and higher education: Institutional approaches for responsible integration

Date: 3 September 2025 / **Time**: 10.45-12.00 / **Venue**: Room VIII

Context and session description

Higher education institutions are under growing pressure to respond to the rapid emergence of generative AI with strategies that are responsible, inclusive and future-focused. This session brought together institutional responses from around the world to examine how universities are developing policies, pilot projects and governance models that support the ethical and effective integration of AI. From national-level frameworks to faculty-led innovation, and from remedial education systems to global survey data, the presentations reflect a diversity of approaches tailored to local contexts and institutional cultures. Together, they surface common priorities: fostering academic integrity, building AI literacies, supporting staff and student development, and ensuring that AI tools serve human learning and judgement. The session highlighted both the opportunities and the risks associated with AI's growing presence in higher education, inviting participants to reflect on what meaningful, values-driven integration looks like in practice. Whether through strategic policy design, participatory innovation or collaborative governance, institutions are shaping the future of AI in ways that affirm the core mission of higher education: to expand access, cultivate critical inquiry and prepare learners for a digitally complex world.

MODERATOR

Mr Noah Sobe
Chief, Section for Higher Education, Division for Policies and Lifelong Learning Systems, UNESCO

PRESENTATIONS

From transgression to transformation: A policy-based system to remedying unethical AI use in higher education
Ms Yolande Stewart
Academic Integrity Officer, North-West University

From principles to practice: Honoris United Universities' AI policy framework
Mr Mourad Zéraï
Chief AI Officer, ESPRIT of Honoris United Universities

Strategic recommendations for generative AI integration: Insights from Ireland's higher education sector
Mr Colin Lowry
Senior Manager for Teaching and Learning, Higher Education Authority

Bottom-up AI integration in STEM education: A Latin American model for ethical and participatory innovation
Mr Felipe Célèry
Coordinator, Learning Area for Engineering and Sciences, Faculty of Physical and Mathematical Sciences, Universidad de Chile

Universities and AI: Insights from the IAU global survey
Ms Trine Jensen
Manager of Higher Education and Digital Transformation, International Association of Universities (IAU)

Key messages

- AI has raised many expectations and concerns. Even when normative frameworks exist, there is a pressing need to move beyond principles to practical guidelines or toolboxes. The practical frameworks that have been implemented include standardized policies for ethical and responsible AI, including academic integrity, data privacy, acceptable use and should involve stakeholders in the implementation process, to provide context and gain acceptance. A guiding philosophy in this adoption process is: be honest (uphold ethics and academic integrity), stay human (let AI assist and not replace human creativity and judgment) and keep learning (build AI-literacy and adapt tools as they evolve).
- From the institutional perspective, AI integration requires a coordinated national strategy. This begins by reexamining the purpose of education, the meaning of authorship and integrity. We must steer away from fraud detection towards process-based approaches in assessment. Inclusion must be included by design, not assumed. We need to provide structured support for staff and students, and to have holistic governance, not focused on tools but on wider themes.
- When we look at how higher education institutions are integrating AI, we observe several challenges: ensuring the accuracy and reliability of AI-generated content (which requires critical thinking), diverse degrees of AI-Literacy (which hinder meaningful adoption), potential over-reliance or dependence on AI, uncertainty about the real impact on learning, and plagiarism and misconduct. Not everything is negative, significant efficiencies are expected, as well as the customization of learning and high-quality pedagogical materials. Research activities may also be positively impacted.

Parallel session 1.6: AI and education in emergencies and displacement contexts: Challenges, innovations and systemic responses

Date: 3 September 2025 / **Time**: 10.45-12.00 / **Venue**: Room IX

Context and session description

In fragile, conflict-affected and displacement contexts, AI and digital technologies hold both promises and challenges. They can sustain learning, empower teachers and education professionals, and open up possibilities to scale and transform education systems. Yet, without careful design and governance, they risk deepening inequalities and leaving the most vulnerable learners behind. In this session, panelists explored a wide range of initiatives - from global collaboration frameworks to boost ed-tech solutions in fragile and conflict-affected settings, to AI-enabled lesson planning for refugee teachers in Egypt and South Sudan, to the design of professional learning communities in Lebanon, and refugee-led innovations in Kenya that advance education and workforce inclusion. The session concluded with insights from Ukraine, where digital systems have been transformed, even amid war. Together, these examples highlighted the diverse approaches, applications and modalities through which AI and digital technologies can be leveraged to sustain learning and strengthen education in emergencies. The discussion connected these experiences across practice, policy and systems, sharing actionable insights and lessons from innovation and transformation processes to ensure AI is used responsibly, inclusively and sustainably to protect the right to education in crisis contexts.

This session explored how AI and digital technologies can strengthen education in emergencies and displacement contexts while addressing critical ethical and equity challenges. Drawing on examples from global partnerships, refugee-led initiatives and national digital transformations,

MODERATOR

Ms Xinxin Yu
Project Officer, Section of Migration, Displacement, Emergencies and Education, Division for Education 2030, UNESCO

PRESENTATIONS

A collaboration framework to boost ed-tech solutions' innovation and sustainability in FCV contexts
Ms Sarah Kleinmann
Education and Technology Expert, World Bank
Mr Seun Adebayo
Pedagogy and Digital Inclusion Officer, UNHCR

Breaking barriers with AI: Enhancing pedagogical support for refugee teachers in Egypt and South Sudan
Ms Albane Coeurquetin
Global Programme Lead, Vodafone Foundation
Ms Sarah Margono Samsudin
Education Officer, Instant Network Schools
Mr Jamie Alexandre
Co-Executive Director, Learning Equality

Designing AI-supported professional learning communities in emergencies: Empowering the middle tier in Lebanon
Mr Luke Stannard
Programme Director, Can't Wait to Learn, War Child Alliance

AI for inclusion: Refugee-led education and workforce innovation in the age of automation
Mr Kiza Mauridi
Founder and CEO, Action for Refugee Life (AReL)
Mr Fabien de Castilla
Director, Konexio Africa

Digital transformation in war time: Leveraging 'old' and 'new' technologies to support all students' learning
Ms David Hollow
Director of Research, EdTech Hub
Ms Margi Bhatt
Education Specialist, EdTech Hub
Ms Anna Sydoruk
Chief Executive Officer, Osvitoria

panelists demonstrated how innovation can sustain learning, empower teachers and build system resilience amid crisis. The discussion emphasized inclusion, responsible governance and collaboration as essential principles to ensure that AI supports the right to education and promotes well-being for all learners, especially those most affected by conflict and displacement.

Key Challenges Highlighted

- Fragmentation and silos: Ed-tech projects often operate in isolation, with limited sustainability or integration into national systems.
- Difficult teaching conditions: Refugee teachers and learners face overcrowded classrooms, connectivity barriers and limited training.
- Equity and access gaps: Marginalized groups - especially girls, children with disabilities and those in remote settings - remain at risk of exclusion.
- Short project cycles: Many promising innovations fail to transition into system-level programmes.
- Curriculum misalignment: Digital and AI tools often lack localization or curriculum alignment.
- Limited evidence: There is a shortage of rigorous data on the impact and cost-effectiveness of AI in crisis education.
- Ethical and inclusion risks: Without safeguards, AI can deepen existing inequalities or introduce bias.

Opportunities and Innovations Presented

1. **Supporting educators through AI**
   AI can augment teacher capacity by automating lesson planning, curating localized content and supporting personalized learning. The Vodafone Foundation and Learning Equality initiative in Egypt and South Sudan demonstrated that AI-enabled lesson planning can save teachers time and enhance engagement when paired with mentoring and professional learning communities. AI should complement, not replace, teachers - empowering them as facilitators of learning.
2. **Systemic and coordinated action**
   The World Bank-UNHCR collaboration framework seeks to align investments and strengthen ed-tech ecosystems in fragile, conflict-affected and violent (FCV) contexts. The Lebanon case showcased how AI-supported professional learning communities can build middle-tier capacity (district and supervisory staff), while Ukraine's experience highlighted how pre-existing digital infrastructure enabled continuity of learning during wartime. Sustainable impact depends on national ownership, coherent policies and long-term financing.
3. **Ethical and inclusive AI**
   AI initiatives must be guided by ethical standards and inclusivity. Refugee-led innovations such as Action for Refugee Life (AReL) and Konexio Africa exemplify how displaced youth can harness digital and AI tools for livelihoods and social participation. Locally led approaches ensure AI supports the right to education rather than widening divides.

Key takeaways and next steps

- Build evidence on what works in AI for education in emergencies - including cost, scalability and impact.
- Foster collaborative frameworks that connect humanitarian, development and local actors.
- Ensure AI and digital transformation efforts are inclusive, ethical and context-sensitive.

4.2 Parallel sessions 2

Parallel session 2.2: Country perspectives on AI in education: Approaches, challenges and insights

Date: 3 September 2025 / Time: 12.10-13.10 / Venue: Room IV

Context and session description

AI is rapidly becoming a strategic focus in education systems around the world, prompting governments to rethink how technology can support learning, equity and national development goals. This session explored how countries are navigating the complex process of integrating AI into their education ecosystems, from high-level policy development to classroom practice. As national strategies take shape, a range of issues come to the forefront: how to ensure AI is implemented ethically and inclusively; how to build capacity among educators and learners; and how to foster innovation while safeguarding data, trust and human agency. The session invited participants to examine the diverse policy pathways and governance models being pursued globally, and to reflect on what these approaches reveal about balancing opportunity and responsibility. Through comparative insights and collective reflection, the discussion considered how national efforts can contribute to more coherent, transparent and human-centred uses of AI in education across contexts.

MODERATOR

Ms Anna Cristina D'Addio
Senior Policy Analyst (Thematic Lead), Global Education Monitoring Report Team, UNESCO

PRESENTATIONS

Transforming education with AI policies: Strategies, tools and global insights
Mr Mustafa Canlı
Director, Ministry of National Education

Bridging strategy and practice: How AI challenges and supports literacy?
Ms Päivi Leppänen
Senior Advisor, Finnish National Agency for Education
Ms Lotta-Sofia La Rosa
Senior Specialist and Project Manager, National Literacy Program, Finnish National Agency for Education

The content store: Working in partnership towards a collective national asset for AI in education
Ms Georgina Langley
Team Leader for AI Education Content Store, Department for Education
Mr David Railton
Customer Director, Faculty AI

Saudi Arabia's experience in developing responsible Gen AI guidelines for K–12 education
Ms Saja Alburaik
Ministry of Education, Saudi Arabia

Key messages

- There was a general consensus that major concerns about AI in education include its effects on how students acquire skills and issues surrounding data privacy. Nevertheless, AI can help ease teachers' workloads. In the United Kingdom of Great Britain and Northern Ireland, an AI-powered content store is being developed to give teachers access to government-approved lesson plans and educational materials. Türkiye is similarly introducing AI tools to support teachers with grading and administrative duties. Saudi Arabia has issued guidelines to assist educators in managing the student use of AI. To introduce these changes in their education systems countries are using coordinated approaches involving many stakeholders.

- Türkiye emphasized large-scale infrastructure, coordination among department and clear oversight and responsibility lines, teacher training and a new AI department to integrate AI safely and aligned with national cultural values. Finland stressed AI literacy and multiliteracy from early childhood onwards, embedding critical digital literacy into all subjects. The United Kingdom highlighted the creation of a national AI content store to ensure safe, curriculum-aligned data for ed-tech innovation, shaped by stakeholder engagement. Saudi Arabia shared its comprehensive ecosystem, with national AI strategies, ethical guidelines and training programmes, including embedding AI in the curriculum.
- The different countries emphasized that the development of AI in education should be guided by cross-country dialogue, collaboration among governments, educators, parents and developers, as well as robust frameworks ensuring equity, trust and cultural relevance. AI is intended to advance human flourishing by supporting responsible innovation while safeguarding both learners and educators.

Parallel session 2.3: Open Educational Resources as digital public goods: Implementing the Dubai Declaration through AI and emerging technologies

Date: 3 September 2025 / **Time**: 12.10-13.10 / **Venue**: Room VI

Context and session description

This session examined how Open Educational Resources can serve as Digital Public Goods (DPGs) to advance equitable, inclusive and sustainable digital learning. Building on the *Recommendation on Open Educational Resources (OER)* and the *Dubai Declaration*, the discussion highlighted actionable strategies for leveraging artificial intelligence (AI) and emerging technologies to support open, rights-based education systems. The *Dubai Declaration*, shaped through a six-month global consultation and adopted at the 3rd UNESCO World OER Congress, expands the *Recommendation on OER* by emphasizing the ethical and sustainable use of AI to accelerate access to quality education worldwide. It addresses demographic and digital shifts that present both challenges and opportunities for learning systems. Aligned with the objectives of the UN Global Digital Compact and the Sustainable Development Goals, the panel fostered dialogue on embedding emerging technologies in OER policies and practices, ensuring inclusive participation and green, sustainable digital education futures.

MODERATOR
Ms Chrissi Nerantzi
Professor in Creative and Open Education, University of Leeds

PRESENTATIONS

The UNESCO 2019 recommendation on OER in the age of AI: The Dubai Declaration on OER, Digital Public Goods and Emerging Technologies
Ms Zeynep Varoglu
Senior Programme Specialist, Section for Universal Access to Information and Digital Inclusion, Division for Digital Inclusion and Policies and Digital Transformation, UNESCO

Opportunities and challenges for open practice and participation
Ms Anne Marie Scott
Vice President, Commonwealth of Learning (COL)

Enhancing and enabling open governance practices in open education
Ms Javiera Atenas
Senior Lecturer, School of Social Sciences and Humanities, University of Suffolk

Contributions and challenges of open education and open technologies for the common good
Mr Tel Amiel
UNESCO Chairholder in Open Education and Technologies for the Common Good and Adjunct Professor, School of Education, University of Brasilia

Multistakeholder cooperation for sustainable digital learning: A civil society perspective
Ms Monge Tlaka
Senior Project Manager, OER Africa

Key messages

- OER are gaining recognition as essential digital public goods: the session emphasized that OER frameworks can embed equity, quality and participation into education systems, even as technology and markets evolve rapidly.
- Digital sovereignty and ethical procurement of education technology are rising concerns: the discussion highlighted how heavy reliance on large commercial platforms weakens institutional control and how adopting open ecosystems offers more agency and sustainability.
- Governance, collaboration and shared infrastructure matter as much as freely available content: speakers stressed that OER effectiveness depends on inclusive, community-driven processes (guided by FAIR and CARE principles), and warned against isolated repositories that lack sustainability.

Parallel session 2.4: Personalized learning with AI: Insights from research and practice

Date: 3 September 2025 / **Time**: 12.10-13.10 / **Venue**: Room VII

Context and session description

Personalized learning has long promised to meet students where they are, but with the advent of AI that promise is being redefined and tested in powerful new ways. This session brought together practice and research-based perspectives to explore how AI-enabled systems are reshaping personalization in education, from adaptive learning platforms and AI tutoring to teacher support tools and new pedagogical frameworks. The discussion examined how AI can help address skill gaps, support educators in low-resource and crisis contexts, and foster both cognitive and critical development in learners. At the same time, the session invited reflection on the potential trade-offs of personalization, such as narrowed perspectives or over-optimization, and what it means to ensure that AI systems uphold educational values like autonomy, equity and inclusion. Participants gained insights into how personalization can be implemented responsibly, at scale, and with sensitivity to diverse local contexts.

MODERATOR

Mr Daniel Burgos
Vice-rector for International Research, Universidad Internacional de La Rioja (UNIR), Spain and President and Rector, MIU City University Miami

PRESENTATIONS

Communal cognitive and dispositional autonomy: A new personalization principle for critical thinking in AI-enabled ed-tech
Ms Samantha-Kaye Johnston
McKenzie Fellow, Assessment and Evaluation Research Centre, University of Melbourne

AI-powered adaptive learning pathways for personalized student success
Mr Ali Nadaf
Director of Data and Research, Alef Education

Leveraging technological innovation for learning: The experience of Khan Academy
Ms Emily Goldman
Manager, International Strategy and Operations, Khan Academy

AprendIA: Using AI for personalized mentorship and training of educators in crisis and conflict settings
Ms Emma Kane
Education Innovation Portfolio Lead, International Rescue Committee

Key messages

- **Personalized learning fosters equity and inclusion, especially in vulnerable contexts**
  Personalized approaches can help ensure that every learner progresses without being left behind, addressing disparities that often widen in traditional education systems. Research shows that closing even a one-grade learning gap can increase national GDP growth by 0.58–0.75 per cent per year,[5] illustrating how educational equity translates into broader social and economic benefits. Particularly in crisis and conflict settings, AI can provide vital learning continuity for children whose education has been disrupted. Localized and context-sensitive content is also critical, allowing learners to access education in their own language and cultural frame.

- **A structured, data-driven process ensures meaningful personalization**
  Effective personalized learning can be seen as following four interlinked stages: diagnosis, planning, remediation and evaluation. Adaptive assessments identify each learner's strengths and areas for growth, leading to personalized plans with clear goals and tailored resources. Localized videos, interactive exercises and AI tutors then reinforce mastery

through real-time feedback and multilingual support. Continuous evaluation provides actionable insights for teachers and parents, ensuring that every learner's journey remains optimized and on track.

- **Human-centred personalization must safeguard learner autonomy**
  As education becomes increasingly personalized through AI, maintaining Communal, Cognitive and Dispositional Autonomy (CCDA) becomes essential. Learners should remain socially connected, think critically and sustain self-driven motivation. Balancing personalization with these three dimensions ensures that AI enhances, rather than diminishes, human agency in learning.

Parallel session 2.5: AI and higher education: Rethinking pedagogy, assessment and academic practice

Date: 3 September 2025 / Time: 12.10-13.10 / Venue: Room VIII

Context and session description

The rapid integration of AI into higher education is reshaping how knowledge is created, shared and assessed. This session explored the shifting landscape of academic practice, where traditional models of teaching, learning and scholarly communication are being reexamined in light of generative technologies. With machines now capable of producing content, solving complex problems, and participating in intellectual tasks, educators and institutions are confronted with both disruption and opportunity. Central to the discussion are questions about how to design pedagogies and assessment methods that remain meaningful, equitable and resistant to automation. The session considered how universities can move beyond detection and prohibition toward cultivating critical engagement with AI by embedding it into learning environments in ways that support reflection, process and epistemic agency. Rather than offering simple solutions, the session invited participants to reflect on how academic integrity, student development and institutional responsibility must adapt in a rapidly changing digital ecosystem.

MODERATOR

Ms Hannele Niemi
UNESCO Chairholder on Educational Ecosystems for Equity and Quality of Learning and Professor of Education and Research Director, University of Helsinki

PRESENTATIONS

Extinction lessons for education: reimagining assessment in an era of technological disruption
Ms Jasmin Cowin
Associate Professor, Touro University

AI and scholarly publishing: Issues and challenges
Mr Rory McGreal
UNESCO and International Council Chairholder for Open and Distance Education Chair in Open Educational Resources and Professor, Athabasca University

Challenges of generative AI in higher education: Promoting its critical use among students
Ms Teresa Romeu Fontanillas
UNESCO Chairholder in Education and Technology for Social Change and Associate Professor, Faculty of Psychology and Education, Open University of Catalonia
Ms Montse Guitert Catasús
Full Professor of Psychology and Educational Sciences, Open University of Catalonia

Innovative AI pilots: Transforming education at the University of Amsterdam
Ms Merel Pompe
Education Advisor, Teaching and Learning Centre, University of Amsterdam
Ms Emma Wiersma
Education Advisor, Teaching and Learning Centre, University of Amsterdam

Key messages

- Pedagogy is changing with GenAI. Students must understand AI's possibilities and risks. Using GenAI must also go hand in hand with critical reflection. It is necessary to have regulatory frameworks and ethical guidelines. In the discussion, the importance of human values was emphasized. AI literacy should be included in every student's learning programme and equip them with the capacity to assess the trustworthiness of AI applications.
- AI, quantum computing and blockchains are increasingly transforming educational environments and traditional assessment paradigms, particularly standardized testing and episodic evaluations. Evaluations are shifting from static, product-focused assessments towards dynamic, continuous ones. With

new systems, such as GenAI, AI-generated outputs are now possible. But the most important thing is that students learn to think critically and engage in tasks that require reflection, brainstorming, peer reviews, reflective commentaries and other learning activities where they are actively involved.

- AI presents significant challenges and opportunities for scholarly publishing. The ethical use of AI tools raises questions about acceptable practices in research and writing, such as originality and authorship(s). It also raises concerns about the digital divide and who has access to these new technologies. Academic communities and publishers need standards and guidelines to ensure the responsible use of AI in scholarly publishing. It is necessary for maintaining the integrity, rigor and accessibility of scholarly communication in an increasingly automated landscape.

Parallel session 2.6: Equity in action: Infosys and Street Child workshop on applying technology in fragile settings

Date: 3 September 2025 / Time: 12.10-13.10 / Venue: Room IX

Context and session description

FACILITATORS

Ms Merinda Owusu
Head of Corporate Social Responsibility, UK & Europe, Infosys

Ms Ramya Madhavan
Global Head of Advisory, Street Child

Mr Oleksandr Golinevych
Country Director, Street Child of Ukraine

Mr Jake White
Director of Partnerships & Corporate Fundraising, Street Child

This session, hosted by Infosys and Street Child had participants confront the real-world challenges of applying education technology in fragile and crisis-affected settings. Drawing on powerful case studies from Nepal, Ukraine, South Sudan, Pakistan and Afghanistan, the session explored how digital tools can either bridge or deepen existing inequalities. Through collaborative problem-solving, participants engaged directly with five critical challenges: overcoming gender barriers for marginalized girls, ensuring learning continuity in climate emergencies, supporting displaced learners with borderless solutions, strengthening teacher capacity in low-infrastructure settings, and equipping local organizations to lead digital transformation. The workshop sparked critical thinking on what equity truly means in digital learning, and how technology can serve, rather than marginalize, communities on the front lines of education crises.

Key messages

- Foundational literacy and numeracy remain critical to ensure children in the most fragile contexts can benefit from technology and AI - while safeguarding against risks.
- Collaboration at both local and government levels is essential to strengthen digital connectivity and infrastructure where possible.
- Low-tech, context-appropriate solutions - combined with well-equipped teachers - can maximize the potential for safe, impactful use of ed-tech.

4.3 Parallel sessions 3

Parallel session 3.1: Bridging learnings to earnings using AI, blockchain and Web 3.0

Date: 3 September 2025 / Time: 16.45-18.00 / Venue: Room II

Context and session description

Across the globe, education-to-employment pathways face unprecedented disruption. Young graduates and mid-career professionals alike struggle as automation reshapes industries, the half-life of technical skills shrinks to mere years, and diploma fraud undermines trust in credentials. Meanwhile, learners in many regions still lack affordable, multilingual and high-quality content.

Yet the convergence of AI, blockchain and Web 3.0 architectures opens new opportunities. AI can mass-produce curriculum-aligned resources at low cost; blockchain can secure and verify credentials; and Web3 can incentivize communities to co-create and share resources, enabling 'learn-to-earn' models that directly connect learning outcomes to livelihoods.

NetDragon Websoft has piloted AI-powered platforms - from Thailand's AI Education 6.0 initiative to national vocational training hubs - that demonstrate how AI+Web 3.0 can ensure equitable, verifiable and portable learning records. This session explored how governments, universities and international organizations can collaborate so that every learner, regardless of geography or background, can convert knowledge into sustainable careers.

PRESENTATION

Transforming lifelong learning – Advancing people with personalized AI that is more accessible and rewarding
Mr Simon Leung
Vice Chairman and Executive Director, NetDragon Websoft

SPEAKERS

Mr Tarek Galal Shawki
Former Minister of Education and Professor of Mechanical Engineering, the American University in Cairo

Ms Asha Singh Kanwar
Chair of the Governing Board, UNESCO IITE and Chair Professor, Smart Learning Institute, Beijing Normal University

Ms Shafika Isaacs
Chief, Section for Technology and AI in Education, UNESCO

Mr CAO Zian
Chief of the Global Partnership and Programme Office, UNESCO ICHEI

Ms Natalia Amelina
Senior National Project Officer in Education and Chief of the Unit of Teacher Professional Development and Networking, UNESCO IITE

PROJECT RELEASE

Mr Danimir Mandic
Dean, Faculty of Education, University of Belgrade

Mr CHEN Hong
CTO, NetDragon Websoft

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

Mr PAN Feng
Deputy Direction, UNESCO ICHEI

Mr Emil CHEN
Vice President, NetDragon Websoft

Key messages

- **AI bridges learning and employability** – Personalized, AI-powered platforms help learners acquire in-demand skills aligned with fast-evolving job markets.
- **Blockchain enables trust and portability** – Blockchain-based micro-credentials build confidence in verified skills and enable seamless recognition across institutions and employers.
- **Web3 fosters inclusive 'learn-and-earn' ecosystems** – Web3 models reward learners' participation and connect education outcomes directly to sustainable economic opportunities.

Parallel session 3.2: AI in mind: The impact of technology on human learning, culture and cognition

Date: 3 September 2025 / Time: 16.45-18.00 / Venue: Room VIII

Context and session description

We often discuss the impact of AI on education, life and work. But what about the foundational impact of AI on the human brain, human development and human cultures? How can we better leverage what we know about human learning to ensure a new paradigm of AI in education - one that not only augments human learning while safeguarding developmental integrity and cultural diversity, but also ensures all children are able to thrive? In this session, an interdisciplinary panel explored the implications of learning insights from cognitive psychology, neuroscience, human development and computer science on our ability to shape more effective, ethical and equitable AI systems in education. This session considered the reciprocal impact of AI tools on human development and human cognitive capacities, especially in children, and discussed how AI draws from and affects cultural dimensions of learning. Panels examined how AI can be developed to support cognitive functions such as attention, memory and metacognition to enhance learning outcomes for more than high performers. It also interrogated the interplay between AI innovation and neuroscience to preview what the education community can expect from the technological developments that are still on the horizon. And finally, they discussed the role of interdisciplinary networks and knowledge brokers on ensuring sound and effective technologies, sharing tools, resources and processes developed by our global community to ensure technological innovations do not simply replicate the inequities of traditional education systems.

MODERATOR

Ms Kelly Shiohira
Director, Global Science of Learning Education Network

PRESENTATIONS

Preparing Generation Alpha to thrive in an AI world
Ms Cristine Legare
Professor of Psychology and Director, Evolution, Variation, and Ontogeny of Learning Laboratory, University of Texas at Austin

The future of child development in the AI Era
Ms Olga Muss Laurenty
Researcher, EVERYONE.AI

Positive Artifical Intelligence in Education (P-AIED): Helping Learners Thrive with Well-being
Mr Ig Ibert Bittencourt
UNESCO Chairholder on AIED Unplugged and Founder, IA.Edu Institute

Applying the science of learning at scale through machine learning
Mr Milad Ekramnia
CEO, EdCortex

Key messages

- Technology is the product of accumulative culture, reflecting the collective contributions of many human minds. A defining feature of human success lies in the ability to learn from others through imitation, which enables the development of complex technologies. Cultural diversity, in turn, provides the foundation for innovation, as diverse groups generate stronger and more creative solutions. For curricula to be implemented successfully, partnerships with local stakeholders are essential to ensure alignment with community needs and values. Cultural customization and personalization are therefore critical to making technology effective across varied learning contexts.

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- Our motivation to learn is inherently social - it grows through interaction with others. Advances in technology now make it possible to monitor these interactions, creating opportunities to reduce, prevent and predict anti-social behaviours. Artificial Intelligence Intelligent Tutoring Systems (AI-ITS) extend this potential by tracking not only students' academic progress but also their emotions and social dynamics, offering insights into how these factors influence learning outcomes. Since the COVID-19 pandemic, disparities between high-income and middle-income countries have widened, affecting both literacy and mental health. This highlights the importance of designing AI-based education systems that integrate learning and well-being. At the same time, excessive monitoring raises privacy concerns, making it essential to strike a careful balance between protection and support.

Parallel session 3.3: Teaching in the age of AI: Evidence-informed practices for educators

Date: 3 September 2025 / Time: 16.45-18.00 / Venue: Room IV

Context and session description

As AI continues to shape education systems, the teaching profession stands at a pivotal crossroads. This session explored evidence-informed practices for teacher development in the age of AI, anchored in recent launch of the 2025 International Task Force on Teachers' position paper, *Promoting and Protecting Teacher Agency in the Age of Artificial Intelligence*. Building on the key messages of the paper, the session presented diverse perspectives from research and practice on how AI can support, and not replace, teachers, emphasizing the importance of human-centred, inclusive, ethical and critical use of AI. From innovative frameworks for AI interaction literacy, to co-created projects that help tailor student support, and capacity-building programmes in teacher education, the presentations highlighted how AI can be meaningfully integrated into education when guided by teacher agency, inclusion and professional development. Together, these contributions illustrated how AI can empower teachers, rather than replace them, and provide concrete tools and approaches to ensure that educators remain at the centre of digital transformation in education.

Key messages

- **Teachers at the centre of AI integration in education**
  Teaching is a deeply human act, rooted in relationships and in developing critical skills like well-being and critical thinking. While AI is already present in classrooms, it must empower rather than replace teachers, preserving their agency, dignity and autonomy. Policy-makers must include teachers in AI debates, as their perspectives are essential to shaping ethical and effective integration. AI should serve teachers, not substitute them, reinforcing the irreplaceable human dimension of education.

MODERATOR

Ms Sarah Younie
CEO, MESHGuides

PRESENTATIONS

Teacher Task Force position paper: Promoting and protecting teacher agency in the age of AI
Mr Carlos Vargas
Chief, Teacher Development Section and Head of the International Task Force on Teachers for Education 2030, Division for Policies and Lifelong Learning Systems, UNESCO
Ms April Williamson
Project Director, Global Programs, Digital Promise
Mr Mutlu Cukurova
Professor of Learning and Artificial Intelligence, University College London

Feedback literacy and legitimation code theory semantics: Research-informed analysis and improvement of AI interaction literacy
Ms Jane Waite
Senior Research Scientist, Raspberry Pi Foundation, Raspberry Pi Computing Education Research Centre, University of Cambridge

Capacity enhancement of educators in the integration of generative AI in professional practice
Ms Shironica P. Karunanayaka
Senior Professor in Educational Technology, Faculty of Education, The Open University of Sri Lanka

From 'Help, I need somebody?' to defining their learning need: An AI-guided project
Ms Heleen Kamphuis
Project Leader, National Education Lab for AI (NOLAI)
Ms Anne van Harten
Founder, TA-help.me

- **From automation to augmentation**
  Current uses of AI in education are dominated by automation, often reducing teacher agency instead of enhancing it. Speakers stressed the need to shift towards augmentation, where AI supports but does not define pedagogy. Crucially, AI cannot solve structural issues in education such as underinvestment, inequality and outdated materials. Teachers need meta-cognitive skills to determine when AI use is appropriate and beneficial for learning. A lot of existing research benchmarks AI as a way to solve teacher tasks, instead of focusing on how AI can complement them.

- **Need for common frameworks and co-creation**
  Several examples were presented to show how AI can support teachers in tailoring guidance, saving time and helping students articulate learning needs. These projects highlighted the importance of national frameworks, participatory continuous professional development, and co-creation with teachers to ensure meaningful and ethical adoption. Education is more than knowledge acquisition; it is built on human connection. To harness AI responsibly, policy, research and practice must align to strengthen teacher agency and place inclusion, ethics and pedagogy at the core.

Parallel session 3.4: Rebalancing the algorithm: Gender, AI and inclusive education

Date: 3 September 2025 / Time: 16.45-18.00 / Venue: Room VI

Context and session description

As AI continues to reshape the landscape of education, it is critical to ensure that these advances promote - not hinder - inclusivity and gender equity. This session 'Rebalancing the algorithm: Gender, AI and inclusive education' brought together global initiatives that centre girls and underrepresented learners in the AI-driven transformation of education. From low-bandwidth AI tutors for displaced girls in Afghanistan to co-designed workshops in Barcelona's El Raval district, these initiatives demonstrated how context-specific, ethical applications of AI can empower learners, amplify digital literacy and confront systemic gender disparities. The session explored how educational systems can be redesigned to include and empower girls and young women, particularly in underserved communities. It also considered the broader implications of automation on youth agency and future work.

MODERATOR

Ms Una Mcarthy-Fakhry
Senior Project Officer, Section of Education for Inclusion and Gender Equality, Division for Education 2030, UNESCO

PRESENTATIONS

Empowering girls through AI for an inclusive and ethical digital future
Ms Sümeyye Kübra Dağlı
Mentor, UN SDSN Global Schools Program

A safe, low-bandwidth AI tutor for girls and displaced learners in Afghanistan
Mr Caspar Groeneveld
Director of the Content Development Lab, Lapis

What will remain for our children to do?
Ms Tara Chklovski
CEO, Technovation

Creating change: AI and digital literacy co-workshops with teen girls in El Raval, Barcelona
Ms Nicole Santana
Edu-communicator and Digital Inclusion Advocate

AI-driven analysis of gender in education policy and documented curricula: Reflections on a process using the AGEE Framework
Ms Eliza Ngutuku
Research Fellow, University College London
Ms Ellen Weavers
Team Member, Bridging AGEE Project, University College London

Key messages

- While AI can help to address certain challenges, it cannot solve human problems such as poverty, inequality and corruption – issues that need to be tackled alongside the digital and AI divides. In this context, it is important to consider what we are teaching children and how we are preparing them for an AI-augmented world. We must teach students to think for themselves, not for AI. AI can be a powerful force for learning when it meets all students' needs, but to truly benefit, students must develop resilience, as well as critical future-ready skills such as problem solving, computational thinking and ethical reasoning.
- Addressing gender and intersectionality at a systemic level requires recognizing the complexity of education systems, as meaningful indicators of gender equality remain difficult to define. True equality goes beyond gender parity, demanding attention to structural barriers and social norms. AI's technical capacities, processes and protocols can support both formal and non-formal education – ranging from assessing the gender responsiveness of curricula and textbooks to enabling alternative learning pathways in conflict-affected settings

– provided that cultural nuances, ethical guardrails, language accessibility and low-bandwidth design are intentionally embedded as essential elements in the pathway to equity.

- Significant gender inequalities persist at every stage of AI development. Women are less likely to learn about, use or create AI technologies, and they are underrepresented in rapidly growing tech sectors, tending to work instead in sectors most vulnerable to automation. It is essential therefore to address gender stereotypes and gaps, ensuring programmes consider gender dynamics among all learners. Empowering young people – especially girls – through practical, creative engagement with AI can encourage them to become active digital agents. Effective programmes should promote depth of learning, self-efficacy, mentoring, social capital and student-centred, community-relevant approaches to ensure better educational outcomes for all learners.

Parallel session 3.5: Regional perspectives on AI in education: Inclusion, policy and local innovation

Date: 3 September 2025 / Time: 16.45-18.00 / Venue: Room VII

Context and session description

As AI technologies expand rapidly across educational systems, questions of inclusion, equity and contextual relevance take on greater urgency. This session explored how diverse countries and regions are addressing the opportunities and challenges of using AI to reach historically underserved learners – including out-of-school children, youth in fragile contexts and students navigating linguistic, cultural or infrastructural barriers. From ethical frameworks and capacity building to policy innovation and inclusive digital literacy, the conversation brought to light the practical and moral responsibilities of using AI to improve upon, rather than deepen, existing disparities. The session spotlighted global efforts to promote explainable, equitable and locally grounded AI applications that empower educators, engage students and support resilient learning ecosystems. By situating AI within broader conversations about human agency, transparency and systemic transformation, it offered critical insights for advancing inclusive digital learning in an interconnected world.

MODERATOR

Ms Eunice Smith
Head of Office and UNESCO Representative to Namibia

PRESENTATIONS

Reimagining opportunities for out-of-school children and youth in Southeast Asia in the age of AI
Mr Emiljohn Sentillas
Policy and Planning Specialist, Southeast Asian Ministers of Education Organization Secretariat
Ms Kate Radford
Consultant, EdTech Hub

Educational policies: When ministries in French- and Portuguese-speaking Africa enter the age of AI
Ms Maïmouna Sissoko-Touré
Programme Coordinator, IFEF (Institut de la Francophonie pour l'éducation et la formation)

Explainable AI in education: Fostering human oversight and shared responsibility
Mr Francisco Bellas
Professor, Universidade da Coruña
Ms Lidija Kralj
Education Analyst, EduConLK

Key messages

- AI is a powerful tool to address the complex challenges faced by Out-of-School Children and Youth (OOSCY). Recognizing that children leave school for diverse reasons, AI can offer multifaceted support. It enables personalized learning pathways, empowers teachers with tools to create and match educational materials, and enhances decision-making by providing data analytics for targeted interventions and policies. These strategies are essential to promote equitable access to education but must be guided by a strong commitment to data privacy, security and ethical standards to ensure their effective and responsible implementation.
- AI in education offers significant opportunities for Africa, despite challenges like infrastructure and data gaps. Initiatives such as KIX Africa 21 are vital in addressing these issues by fostering regional cooperation and research. By sharing localized experiences, especially in areas like personalized learning and teacher support, African nations are advancing ethical and contextualized AI strategies. The goal is to facilitate a phased, human-centred implementation of AI, ensuring it acts as a powerful force for inclusion and equitable education across the continent.

- Explainable AI (XAI) is crucial for transforming AI from a ‘black box’ into a trusted educational tool. By providing clear, understandable explanations, XAI addresses ethical concerns and promotes human agency. Its key aspects include integrating transparent and actionable information into educational tools for all users and building the capacity of learners and educators to critically engage with AI. This collaborative approach ensures the development of transparent, fair and human-centred AI systems that are not only technically sound but also contextually appropriate and pedagogically effective.

Parallel session 3.6: AI and student-centred pedagogies: Rethinking learning, agency and engagement

Date: 3 September 2025 / Time: 16.45-18.00 / Venue: Room IX

Context and session description

As AI becomes increasingly embedded in educational systems, reimagining student-centred pedagogies is both urgent and essential. This session explored how AI can be harnessed not to automate or replace, but to amplify student agency, creativity and engagement. Moving beyond efficiency-driven narratives, the session invited critical reflection on how AI can support more humanizing, equitable and participatory forms of learning. From dialogic and narrative interactions to co-learning agents and national policy frameworks, the session surfaced diverse approaches to integrating AI in ways that foreground curiosity, ethical responsibility and learner empowerment. It also examined how emerging technologies can be thoughtfully embedded within pedagogical practices that respect developmental stages, cultural contexts and the rights of all learners. Grounded in both research and real-world experimentation, the discussion offered new visions for how educators, policy-makers and designers can co-create futures where AI acts as a collaborator rather than a controller. Through this lens, AI becomes a tool not of standardization, but of transformation – inviting educators to rethink what it means to learn, teach and engage in an age of intelligent systems.

MODERATOR

Mr Amir Piric
Director, UNESCO Almaty Regional Office

PRESENTATIONS

Reclaiming curiosity: AI and the rise of a pedagogy of wonder
Ms Lucy Gill-Simmen
AI in Education Lead, Royal Holloway, University of London

Virtual agents as co-learners: How AI can help students practice learning-by-teaching through peer assistance
Mr Pegor Papazian
Chief Development Officer, TUMO Center for Creative Technologies

Student perception of AI as narrators: A comparative study
Mr Gisles Boudet
Teacher of Digital Pedagogy, Université Catholique de l'Ouest

Responsible use of AI in primary education following the EU AI Act
Ms Emma Carralon
Head of Digital Learning and Online Safety Lead, British School of Paris

Crafting Cyprus's policy roadmap for ethical, responsible AI in primary and secondary education
Ms Elena Hadjikakou
Director, Cyprus Pedagogical Institute (CPI), Ministry of Education, Sport and Youth
Ms Theodora Kakouri
Teacher Trainer, Cyprus Pedagogical Institute (CPI), Ministry of Education, Sport and Youth

Key messages

- **AI as a Catalyst for Student Agency and Wonder**
  Dr Lucy Gill-Simmen emphasized that AI should serve as a catalyst for curiosity and bring back 'Wonder' into classrooms, not as a replacement for educators. Her 'pedagogy of wonder' is grounded in dialogue, post-digital learning theory, critical humanism, and experiential learning. Practical approaches include multimodal storytelling, prompt design workshops, and collaborative critique, where AI amplifies reflective inquiry and imagination. This values-led direction repositions AI as an enabler of joy, creativity, and student agency.

- **Ethical, Inclusive, and Developmentally Appropriate Use of AI**
  Speakers stressed that AI must be integrated into education responsibly, with ethics, safety, and inclusivity at the forefront. Emma Carralon highlighted the challenges in primary education: lack of AI policies, insufficient teacher training, and confusion over EU AI Act obligations. She illustrated how AI tools can enrich abstract thinking, debates, and creative tasks while still requiring transparency, parental involvement, and safeguarding children's rights. Similarly, the Cyprus Pedagogical Institute presented a national roadmap where pedagogy comes first, supported by teacher capacity building, equitable access, and AI literacy. These approaches stress that AI integration should respect developmental stages and reduce digital divides.

- **Collaborative Futures and Policy for Transformative AI in Education**
  AI's role in education requires collaborative co-creation across teachers, students, policy-makers and designers. The TUMO Center's work with teenagers illustrated how virtual agents can function as co-learners, encouraging learning-by-teaching, personalized feedback, and peer collaboration across global workshops. This participatory model reflects how AI can empower young learners as active agents. Meanwhile, Cyprus's policy roadmap stressed evidence-based governance, teacher training, and alignment with ethical principles like inclusion, justice, and human rights. Together, these examples underline that AI in education must be shaped collectively to transform systems, moving beyond efficiency narratives toward humanizing, participatory, and culturally responsive pedagogy.

4.4 Parallel sessions 4

Parallel session 4.1: Human rights, AI and the future of the right to education

Date: 4 September 2025 / Time: 14.30-16.00 / Venue: Room I

Context and session description

Is AI a powerful tool for education? Indeed, AI can hold promise for more access, personalized and efficient learning opportunities for all, yet its integration into curriculum, content delivery and school administration may raise profound human rights implications. It is for this reason that this parallel session posited that the intersection of AI and education must be determined in light of the fundamental right to education. This session brought together a wide range of experts; spanning public authorities, inter-governmental organizations, research, academia and educators – with a view to unpack issues such as equity, inclusion, data privacy, algorithmic bias, among other things. Through case studies from South Africa, Brazil and beyond, as well as critical reflections from UNESCO Chairs, UNICEF and CNIL, the session examined both the risks and opportunities of AI in education. It also presented key findings from UNESCO's latest research on the digitalization of education and its implications for the right to education. It fostered interdisciplinary dialogue on how human rights principles can guide frameworks for AI governance in the field of education: ensuring that a human rights-based approach is not a constraint on innovation, but rather its moral compass.

MODERATOR

Mr Gwang-Chol Chang
Chief, Section of Education Policy, Division for Policies and Lifelong Learning Systems, UNESCO

PRESENTATIONS

The impact of digitalization and AI on the right to education
Mr Wayne Holmes
UNESCO Chairholder in Ethics of Artificial Intelligence and Education and Professor of Critical Studies of Artificial Intelligence and Education, University College London

AI human rights literacy
Ms Felisa Tibbitts
UNESCO Chairholder in Human Rights and Higher Education and Chair in Human Rights Education, Utrecht University

Rethinking the right to basic education in the age of AI in South Africa
Mr Moses Phooko
Chairholder of the UNESCO 'Oliver Tambo' Chair of Human Rights, University of Fort Hare

The ECCD approach to digital rights and human dignity in Ceará, Brazil
Ms Laura Olivier
Education Specialist, Department of Education of the State of Ceará
Ms Carolina Maciel
Teacher, Ceará Public School System

CNIL recommendations regarding the use of AI systems in educational settings
Ms Elodie Weil
Privacy Counsel, National Commission for Information Technology and Civil Liberties (CNIL)

Beyond homework: Redesigning AI to support children's learning and well-being
Mr Steven Vosloo
Digital Foresight and Policy Specialist, UNICEF Innocenti

Key messages

- AI in education must be governed through a human rights-based approach, anchored in international standards, with accountability, remedies and inclusive decision-making. This approach must consider children's rights, notably the right to quality education, the right to be heard, the right to be protected from commercial exploitation, the right to privacy and the right to work and livelihood. AI governance in education must be rights-based, transparent, evidence-informed,

participatory and accountable. It requires strong state leadership, regulation of private actors, privacy-by-design, inclusive participation and remedy mechanisms. Above all, AI should serve human and educational purposes, strengthening the right to education and related rights rather than eroding them.

- Evidence, educators and AI literacy must guide adoption. Teachers cannot be replaced, and capacity-building for all key stakeholders (i.e. policy-makers, educators, learners, parents/families) is essential. There is a need for more evidence on the safety and effectiveness of AI and how it impacts the relationships between students and teachers. Monitoring and evaluation should be central to the use of AI and evidence must be regionalized and localized. There is notably a need for more research and evidence on the impact of AI on children's well-being, including their critical thinking, socio-emotional development and protection of their data. Educators, parents and learners should be equipped to understand and explain the risks of AI and the rights-based use of data. Governments and policy-makers must promote AI literacy to achieve such objectives.
- Privacy and equity by design are essential to ensure that AI in education protects learners' rights and promotes inclusion rather than deepening divides. Governance must prioritize data minimization, avoiding tools that repurpose or commercialize children's data, and favouring local or on-device solutions to limit cross-border transfers. Schools should select AI systems compliant with data protection rules, supervise their use closely and train students to critically assess AI outputs. Privacy safeguards must go hand in hand with equitable access to digital resources, addressing disparities in connectivity, infrastructure and literacy. Equity by design also means preventing algorithmic bias, protecting linguistic and cultural diversity, and ensuring accessibility for all learners, including those with disabilities. Ultimately, privacy and equity must be embedded from the outset, not as afterthoughts, so that technology serves the public good and upholds the right to education for every child.

Parallel session 4.2: Digital citizenship in the AI era: Values, competences and youth empowerment

Date: 4 September 2025 / Time: 14.30-16.00 / Venue: Room IV

Context and session description

This session aims to showcase innovative, youth-centred approaches to AI Literacy across Europe, Latin America and Asia. It explores how diverse modalities, including open educational resources, creative media production, cross-cultural inquiry and public outreach can foster AI fluency among young people. The session highlights how students are not only learning about AI but are also actively shaping its role in their schools, communities and intercultural spaces.

Bringing together five pioneering initiatives, the session demonstrates how real-world engagement, co-creation and reflective practice can empower youth to become critical, ethical and creative users of AI. Through hands-on toolkits, student-led media projects and qualitative research into identity and technology, participants will discover how AI literacy can be embedded into both formal and informal educational environments. The session ultimately reveals how these approaches promote autonomy, civic voice and critical thinking, equipping young people to navigate and influence an increasingly algorithmic world.

Key messages

- Digital spaces are emerging as the new arenas for civic engagement. Education systems are left with the challenge of responding to evolving levels of digital innovation and transformation, and the need to balance this with fostering media and information literacy. Education should foster active global citizens. For this, digital learning must transcend hard digital skills and focus on

MODERATOR

Ms Adeline Hulin
Chief of Unit a.i., Media and Information Literacy and Digital Competencies, Division for Freedom of Expression, Media Development and Media and Information Literacy, UNESCO

PRESENTATIONS

Rethinking digital competencies: Harnessing values to empower digital citizens and communities in the AI era (United Kingdom of Great Britain and Northern Ireland & Kingdom of the Netherlands)
Ms Nura Jahanpour
Doctoral Researcher, University of Cambridge
Ms Dina Fajardo
Co-Founder, Dexterity Club and Research Associate, University of Cambridge
Ms Gwendolyn Blaga Philbrow
Research Assistant, Dexterity Club and Master's Candidate, Utrecht University

Algowatch: Creation of interactive resources based on an MIL and AI competences framework (France, EU project)
Ms Divina Frau-Meigs
UNESCO Chairholder in 'Savoir-devenir in sustainable digital development' and Professor, Sorbonne Nouvelle University

Youth Press – Student news agency programme (Brazil)
Mr Carlos Lima
Coordinator, Educommunication Centre, São Paulo Municipal Department of Education

AI and ethnic studies: Exploring digital fluency in ethnic studies among Malaysian youth (Malaysia)
Ms Nurul Akqmie Binti Badrul Hisham
Research Fellow and UNESCO Chair Manager on Social Practices in Intercultural Communication and Social Cohesion, The National University of Malaysia

AI vs education: The balancing act (Croatia)
Ms Dora Šimunović
Advocacy and PR Coordinator, European Council for Steiner Waldorf Education

empowering all students and learners to acquire the necessary skills to think critically and ethically thrive in these spaces.

- It is important to ensure that the perspectives of all actors within the education ecosystem are valued and involved when developing new digitally oriented citizenship education and media and information literacy tools. The effectiveness of these tools is strengthened when the perspectives of parents, educators, students and teachers are integrated into the design and implementation of these schemes. This involves the meaningful integration of students, who, when trusted, can become agents of change towards a more informed, inclusive and participatory future.
- Both teachers' and learners' digital and AI competencies are enhanced through access to quality resources. This involves a recognition that both students and teachers are learners and co-creators jointly facing complex digital challenges and questions. The relational element of these digital transformations should be emphasized, whereby the values that anchor us can direct meaningful and ethical engagement with the digital world, and each other in the classroom.

Parallel session 4.3: AI for all abilities: Building accessible learning technologies

Date: 4 September 2025 / Time: 14.30-16.00 / Venue: Room IX

Context and session description

As AI continues to transform education, it offers unprecedented opportunities to create inclusive learning environments that cater to diverse needs. This session will offer international perspectives on how AI-powered tools can enhance accessibility, breaking down barriers for learners with disabilities and ensuring equitable access to knowledge. From personalized learning experiences to adaptive technologies, AI has the potential to revolutionize education by supporting cognitive, sensory and physical differences. But without careful consideration, Ed Tech interventions and AI could exacerbate existing 'digital divides' and increase inequities. Experts will discuss current innovations, challenges and future directions in designing learning technologies that truly serve all abilities.

Key messages

- AI can bring opportunities in creating more accessible education tools that meet the diverse needs of learners, transforming learning for the more marginalized groups and breaking down barriers at different education levels. However, it also presents challenges that need to be addressed to ensure true equitable access to knowledge and its comprehension, and to encourage further participation in education. Low-cost, inclusive AI solutions that are easy to use, language-inclusive and replicable – and that focus on abilities rather than on disabilities – can foster the autonomy and participation of learners with disabilities, thereby improving their educational experience and learning outcomes.

MODERATOR

Ms Florence Migeon
Programme Specialist, Section of Education for Inclusion and Gender Equality, Division for Education 2030, UNESCO

PRESENTATIONS

Towards inclusive education: The impact of an artificial intelligence application on university teaching
Ms Norma Inés Caldas Gayoso
Renacyt Researcher, Universidad Privada del Norte

AI unlocking access: Catalyzing digital inclusion and policy innovation for learners with disabilities
Ms Susann Gihr
Policy Advisor, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
Mr Issac Manzi
Specialist, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

SEIMS: AI-assisted inclusion analytics for Ghana — from co-design to evaluation
Mr Rudolph Ampofo
Co-founder, Craft Education

AI tools to foster creativity in neuro-divergent children
Ms Safinah Ali
Assistant Professor, Steinhardt School of Culture, Education, and Human Development, New York University

Advancing inclusive education with AI: Co-creating accessible digital textbooks with Uruguay, UNICEF and OpenAI
Ms Julie de Barbeyrac
Innovation Manager, Global Learning Innovation Hub, UNICEF
Mr Thomas Dreesen
Education Manager, UNICEF Innocenti
Ms Gabriela Salsamendi
Director of Early Childhood and Primary Education, Ministry of Education and Culture, Uruguay
Mr Emmanuel Lubanzadio
Africa Lead, OpenAI

- Educational actionable data is essential for effective management, delivery and decision-making in education. AI-powered insights can help support and improve these processes. Understanding context is key to realizing AI's potential in classrooms, as well as to develop gender-responsive, culturally sensitive and child-centred approaches to AI curricula and tools that respond to the needs of the most vulnerable communities and foster inclusive learning environments. Training data should reflect diverse learner needs and abilities, while design must address bias and stereotypes and involve students. With properly trained AI and teacher training, AI can support teaching, educational planning, and enhance learning and creativity.
- Leveraging existing technologies, supported by strong, updated policy frameworks and community engagement, can improve the development, scaling and sustainability of AI educational tools. Additionally, investing in technical infrastructure, addressing data shortages and optimizing resources are essential to ensure effective and equitable AI integration in education. To keep pace with AI's rapid growth while maintaining human and inclusive values, it is essential to build collaborations, partnerships and networks. This involves actively working with communities and families and prioritizing the pedagogical quality and local relevance of AI tools.

4.5 Parallel sessions 5

Parallel session 5.1: Reimagining equity in education: AI and education in rural and low-resource environments

Date: 4 September 2025 / Time: 16.15-17.45 / Venue: Room IV

Context and session description

AI is reshaping education systems globally, yet its benefits risk bypassing the communities most in need. This session examined how AI can be meaningfully applied to advance equity in education, particularly within rural and low-resource environments across the Global South. It brought forward bold, context-sensitive approaches that challenge assumptions around connectivity, infrastructure and access. From messaging-based learning tools to offline AI systems and community-led digital literacy initiatives, the session highlighted practical strategies for deploying AI in ways that are inclusive, sustainable and locally grounded. Rather than one-size-fits-all solutions, the discussion focused on co-design, cultural relevance and long-term capacity building. Given the importance of participatory innovation that reflects the lived realities of educators and learners, the session also offered insights into models and partnerships that support the responsible scaling of AI tools and policies, placing equity and inclusion at the centre of educational transformation in the age of AI.

MODERATOR

Mr Abdoulaye Salifou
Chief of Education Sector, UNESCO Office in Addis Ababa

PRESENTATIONS

Wait…I can learn and receive support on WhatsApp? Uganda's vision and model on teacher training and development through AI-enabled chatbots
Mr Sebastian Otte
Digital Transition Specialist, Enabel
Ms Annet Kajura Mugisha
Commissioner of Teacher Education, Trainings and Development, Ministry of Education and Sports
Mr Kartik Uniyal
Founder, Cognify Education

Community-driven AI tools for inclusive learning in low-resource contexts
Ms Jody Britten
Key Partner, AI-for-Education.org
Mr Paul Atherton
Founder and CEO, AI-for-Education.org

AIED Unplugged: Expanding learning opportunities and reducing educational inequities in low-and middle-income countries
Mr Ig Ibert Bittencourt
UNESCO Chairholder on AIED Unplugged and Founder, IA.Edu Institute
Mr Carlos Portela
Professor, Federal University of Pará**Repairing through Digital: Community-based inclusion and AI learning in Anyama, Côte d'Ivoire**
Mr Aboubacar Sidick Ballo
Founder, Impactful Education
Mr Issouf Ouattara
Technology Coordinator, Impactful Education
Mr Moussa Christian Kone
Literacy Coordinator, Impactful Education

Key messages

- States, international organizations, civil societies and other NGOs must ensure that ongoing AI developments in education consider rural communities and people with disabilities.
- Participants in this parallel session advocated for reducing educational inequalities in low- and middle-income countries.

Reimagining education in South Africa in the age of AI: complexities of structural equity and inclusion
Mr Langa Khumalo
Professor, North-West University
Ms Naledi Mbude-Mehana
Deputy-Director General for Transformation Programme, Department of Basic Education
Mr Vukosi Marivate
ABSA Chair of Data Science, Professor, Department of Computer Science, University of Pretoria

- Participants in this session called on UNESCO to promote inclusive AI in education, paying particular attention to gender, rural communities and people with disabilities, and to bridge the digital divide worldwide.

Parallel session 5.2: Unpack the 'Black Box': Technical affordances and limits of AI models for education

Date: 4 September 2025 / Time: 16.15-17.45 / Venue: Room I

Context and session description

As AI becomes increasingly embedded in educational tools and systems, questions surrounding its technical limitations, ethical implications and socio-political consequences have never been more urgent. This session invited participants to examine the 'black box' of AI models – not only in terms of their predictive mechanics, but also the values and assumptions encoded within them. From explainability and transparency to content filtering and alignment biases, the session explored how the inner workings of AI can both support and distort educational goals. Special attention was given to how these technologies shape what knowledge is visible, which voices are amplified or silenced, and how decisions are made on behalf of educators and learners. By interrogating the underlying architectures and behaviours of AI systems, the session challenged the simplistic narratives of technological progress and calls for deeper reflection on how these tools are designed, deployed and governed. Participants gained insight into emerging frameworks for responsible AI use in education, and practical strategies for ensuring that digital learning technologies remain accountable, inclusive and human-centred.

MODERATOR

Ms Kaśka Porayska-Pomsta
Professor of Artificial Intelligence in Education, University College London

PRESENTATIONS

GenAI and academic integrity: Rethinking ethical perspectives
Ms Lorna Waddington
Associate Professor of International History, University of Leeds

AI sycophancy in education: Risks, reflections and practical guidelines
Mr Renato Matoso
Professor of Philosophy, Pontifical Catholic University of Rio de Janeiro
Ms Nastassja Pugliese
Professor of Philosophy of Education, Federal University of Rio de Janeiro

Leveraging fair and transparent AI to protect educational trajectories in LMICs
Mr Emanuel Marques Queiroga
Technology Analyst, IFSul
Mr Cristian Cechinel
Professor, Federal University of Santa Catarina

Key messages

- As AI, and particularly GenAI, becomes more ubiquitous and integral to the worlds of work and study, a responsible way to build AI systems needs to be based on the principle of 'human in the loop', whereby humans are able not only to provide feedback on the quality of AI's outputs, but also to change the underlying assumptions on which the specific systems operate. Furthermore, we need to push the current thinking towards adopting both a 'humanity-in-the-loop' approach, where a diverse range of stakeholders are involved in AI development and evaluation, and a 'humanities-in-the-loop' approach, involving highly inter-disciplinary insights from traditional distant domains such as history and philosophy are applied to AI.
- AI systems have increasingly shown themselves to be capable of deceiving users. This applies not only to AI systems that are specifically developed to mimic deceptive human behaviour (e.g. a poker bot bluffing about its cards), but those that are supposed to aid and assist humans. AI deception is generally linked to sycophancy – products like ChatGPT are designed to agree with their users, but this can lead to the dangerous propagation of 'personalized misinformation' or reinforcement of prior misconceptions. This deception has significant

potential consequences for education, as well as mental health of users of these systems, necessitating a careful rethink of both the design of these systems and of their uses.

- Current general purpose GenAI systems such as ChatGPT can lead to reinforcing existing inequalities in education due to their reliance on biased data as well as their tendency to be better used by domain experts seasoned critical thinkers as opposed to novices. If we wish to identify and mitigate this bias, transparency and explainability of how AI models work is critical. However, due to financial and security considerations of private companies, the inner workings of most AI models are kept deliberately opaque. This prioritization of profit over people is a critical challenge that needs to be proactively addressed by governments if we hope to develop ethical and equitable AI models.

Parallel session 5.3: AI-supported approaches to climate and sustainability learning

Date: 4 September 2025 / Time: 16.15-17.45 / Venue: Room IX

Context and session description

Education for Sustainable Development (ESD) equips learners of all ages with the knowledge, skills, values and attitudes to make informed decisions and take responsible actions that support environmental integrity, foster just and equitable societies, and respect cultural diversity and indigenous knowledge. This session explored how AI and digital learning are being applied in varied contexts to advance ESD, ranging from environmental education in climate-vulnerable regions and the integration of AI literacy for sustainability to community specific digital tools that strengthen local action, place-based approaches that build climate resilience learning and GenAI platforms that support interactive environmental dialogues. Bringing together diverse perspectives and practical innovation, this session highlighted both opportunities and challenges in aligning the digital and green transformations in education.

Presenters demonstrated novel solutions in an interactive manner, to enable participants to gain insights into how emerging AI technologies and innovative practices can advance climate resilience to ensure that digital transformation supports sustainable futures.

Key messages

- AI holds considerable potential to advance inclusive climate and sustainability education. One important way AI and other digital technologies can help is by enabling the development of adequate infrastructure and enabling environments, particularly for people with disabilities and

MODERATOR

Ms Katerina Ananiadou
Programme Specialist, Section for Education for Sustainable Development, Division for Peace and Sustainable Development, UNESCO

PRESENTATIONS

Harnessing AI for environmental education: Catalysing innovation for climate resilience
Ms Nancy Marangu
Executive Director and Policy & Strategy Specialist, Chemichemi Foundation

From local knowledge to global action: AI literacy for equity, sustainability and youth agency
Ms Alexandra Okada
Associate Professor of Global Education and Digital Transformation, The Open University UK
Mr Tony Sherborne
Director, Mastery Science

EnvironmentGPT: An AI-powered solution for enhancin community environmental education
Mr Jinsong Li
Founder, Ivy Youth Center
Mr Taoyu Pan
Project Youth Leader, Ivy Youth Center
Mr Yihang Zhou
Project Youth Leader, Ivy Youth Center

Generating place-based learning experiences for climat resilience education with the future atmospheric Condition Training System
Mr Imran S. A. Khan
PhD Candidate in Computer Science, Le Mans University
Mr Emmanuel G. Blanchard
Associate Professor of Computer Science, Le Mans University

Introduction of 'Kankyo Café', an interactive online environmental education programme utilizing generative AI
Mr Jin Tanaka
Research Fellow, National Institute for Environmental Studies
Mr Mitsuru Tada
Visiting Researcher, National Institute for Environmental Studies

marginalized groups. The session underscored that innovation must be accompanied by equity-oriented measures to ensure no learner is left behind in the digital transformation.

- Community knowledge and youth engagement are indispensable for translating AI innovation into equitable climate action. Case studies demonstrated the value of integrating indigenous knowledge, participatory data collection and open schooling initiatives with AI applications. Such approaches foster sustainability, empower young people and bridge local realities with global environmental priorities.
- Aligning the green and digital transformations that educational systems are currently undergoing presents both opportunities and challenges. Emerging applications of GenAI, including chatbots and place-based learning systems, illustrate new modalities for climate and sustainability education and community resilience. By leveraging real-time data, IoT (internet of things) technologies and retrieval-augmented generation, these tools can provide tailored learning resources. Yet, the session also highlighted the importance of ensuring accuracy, reliability and trust in AI-enabled learning environments.

5. Futures workshops

5.1 Futures workshops A: Futures of AI in educational leadership

Date: 4 September 2025 / Time: 14.30-16.00 / Venue: Room III

Context and session description

To inform education leaders' decision-making amid a changing landscape in and around education, this workshop will engage participants in examining possibilities for how AI might be used in and impact educational leadership over the next decade. This workshop drew upon KnowledgeWorks' latest ten-year forecast exploring the future of learning, from the foundational disruptions of the present and the dilemmas that might emerge to the strategic directions that education leaders could pursue to shape the future. Since 2006, KnowledgeWorks has been publishing comprehensive forecasts that inspire collective reimagining in the education field. Because education leaders first need to dream about a future they want before they can shape it, this workshop provided a space to explore future possibilities and consider issues that need attention today.

FACILITATOR

Ms Katherine Prince
Vice President, Foresight and Strategy, KnowledgeWorks

MODERATOR

Ms Alina Kirillina
Project Officer, Futures of Learning and Innovation, UNESCO

Key messages

- **AI's emerging role in education:** AI is evolving into a general-purpose technology with potential as transformative as electricity or the internet. Its applications in adaptive learning, teacher support and student engagement could redefine how education systems operate. This shift requires education leaders to reflect on what knowledge, skills and dispositions learners will need to thrive in AI-rich environments. Beyond technical proficiency, students must cultivate critical thinking, ethical awareness and resilience. Strategic foresight can help education leaders navigate this transition responsibly and ensure AI strengthens human agencies and inclusive learning.
- **Leadership and human-centred priorities:** The rise of AI challenges education leaders to act with courage and clarity of purpose. Human-centred leadership must prioritize learners' well-being and equity, even as AI becomes deeply embedded in schools and systems. Leaders need to foster a sense of community, rethink learning design and emphasize cognitive, social and emotional development alongside digital skills. This entails reimagining professional roles, supporting teachers as co-creators and mentors, and creating environments where technology enhances rather than replaces human connection. Responsible leadership will be critical to aligning AI's potential with education's broader societal mission.
- **Reimagining education in the age of AI:** AI presents an opportunity to radically reimagine the design and practice of education. Beyond efficiency gains, AI could personalize learning pathways, tailor curricula and adapt daily schedules to individual needs. It can support learners with disabilities, coach group collaboration and reshape how schools organize time and social interaction. Education leaders must approach this potential with imagination and care, ensuring innovation is inclusive and context-sensitive. By embracing foresight and experimentation, systems can unlock AI's capacity to enrich learning experiences while safeguarding equity, cultural diversity and human dignity.

5.2 Futures workshops B: Outpaced: When the world changes faster than children grow

Date: 4 September 2025 / Time: 14.30-16.00 / Venue: Room VI

Context and session description

FACILITATOR

Mr Andrej Novik
Researcher,
Scioresearch

MODERATOR

Ms Elena Toukan
Research Coordinator,
Futures of Learning and
Innovation, UNESCO

Imagine a child starting school today. By graduation, their digital twin may know them better than their parents do. An AI teacher could adapt to their individual needs every millisecond. Their closest friend might exist only in virtual reality. Brain-computer interfaces could enhance their memory, while algorithms shape their moral decisions.

While we debate AI's economic impact, we rarely examine what matters most: how these changes affect children's development. This workshop used real research data from Czech and Slovak schools (6,728 respondents across students, parents, teachers and administrators) alongside evidence-based scenarios to explore both exciting possibilities and serious risks that current education discussions often neglect.

Participants worked with detailed personas representing potential developmental impacts - from attention fragmentation to identity dissolution. Through structured activities, they assessed probability, explored multilevel responses and engaged in international dialogue about priorities. The discussion was timely since the technologies influencing today's six-year-olds were considered likely to redefine what it means to grow up, learn and become human.

Key messages

- How do you prepare children to live in a world where technology outpaces their own maturation? Technologies shaping a toddler's world may be obsolete before they even enter primary school. How do you prepare children for what comes after AI, or the many evolutions of AI systems? Critical thinking skills, among other current curricula fads, may not be enough to combat AI's extractive nature. Eventually, the upper classes will not only have the best technology but will have the best ways to escape said technology. One comment was 'My fellow teachers tell me I'm overreacting, but I'm not so sure.' We are afflicted by the boiling frog syndrome – the future is here, though we may not yet recognize it.
- How does blind adoption of AI technologies in schools and society affect children? Teachers and parents are noticing negative reactions from children that are not widely covered in general AI discourse. Impacts of AI on children include: fragmentation of cognitive development, epistemic helplessness, cognitive offloading, relational substitution and emotional dependence, moral outsourcing, social atomisation, existential crisis of redundancy, cognitive stratification and the 'AI Divide', creative atrophy, linguistic and cultural homogenization, identity dissociation.
- Solutions to mitigate risks of AI in education must be participatory and context-driven. Approaches include role play activities that help students critically engage with AI scenarios and design their own solutions, voluntary 'no technology' weeks to foster metacognition, and resisting one-size-fits-all systems in favour of nuanced adoption. Co-designing tools with AI developers ensures technology supports creativity rather than replacing it. Encouraging the use of mother tongues in schools and involving both teachers and students in decision-making will foster inclusive, responsible and human-centred pathways for AI integration in education.

5.3 Futures workshops C: Anticipating 2050: AI and education in Africa

Date: 4 September 2025 / Time: 14.30-16.00 / Venue: Room VIII

Context and session description

This session was a futures-oriented workshop organized by two of UNESCO's sectors: Priority Africa and External Relations, and the Social and Human Sciences. It drew from UNESCO's capability-based approach to 'use the future to rethink the present'. The workshop invited participants to leverage specific foresight tools, with an emphasis on considering opportunities for Africa, to then consider what actions must be taken today in order to achieve inclusive and sustainable education in Africa driven by innovation, science and technology.

FACILITATORS

Ms Clare Stark
Head of Futures Literacy & Foresight, Section for Management of Social Transformations and Foresight, Division for Social Policies, UNESCO

Mr Jean Lucien Ewangue
Liaison Officer, Social Mobilization and Communication Unit, Division of Priority Africa Coordination, UNESCO

Ms Christine Kavazanjian
Project Officer, Section for Management of Social Transformations and Foresight, Division for Social Policies, UNESCO

MODERATOR

Mr Mark West
Lead for the Futures of Education, Future of Learning and Innovation Division, UNESCO

Key messages

- **Reimagining education for Africa's digital future.** Africa's digital future must be driven by African-led solutions and stronger regional cooperation. Networks of higher education institutions and virtual campuses can foster innovation and resilience. Priority actions include creating digital tools 'by Africans for Africans,' ensuring open access to AI, developing African large language models with local data, reflecting Africa's rich cultural and linguistic diversity, and mobilizing public–private partnerships to enhance investments in infrastructure. Education systems should adopt the motto 'market ready - life ready,' with teachers as mentors, intergenerational learning as a bridge and curricula reimagined to align with work, community and digital transformation, equipping learners to thrive in rapidly changing societies.
- **Preparedness, equity and human-centred approaches.** Africa often anticipates technological shifts but struggles to respond in time. Digital adoption is accelerating, yet the divide risks becoming a 'mega-chasm' unless equity is placed at the core. The trajectory of AI must be defined not by technology and business logic alone but rather by human agency, foresight and human-centred approaches. Rapid speed of innovation and technological changes must be matched with robust skills development, inclusive access and financing for infrastructure. Only by coupling technological growth with social readiness can Africa ensure that digital transformation strengthens societies rather than fragments them.
- **Youth agency in shaping Africa's digital future.** Africa's youth are ready to embrace digital opportunities and can contribute as drivers of social, technological and economic transformation. Unlocking their potential requires addressing disparities in access, infrastructure and training, while investing in human capital, data centres and equitable financing. Anchored in ancestral wisdom and knowledge diversity, Africa can shape models of innovation and resilience that respond to its own needs and enrich global thinking. By empowering its young people, the continent can project influence 'from Africa to the world' and contribute new perspectives to the futures of education and technology.

5.4 Futures workshops D: Responsible educational futures and the futures of work: Engaging education stakeholders in responsible AI

Date: 4 September 2025 / Time: 16.15-17.45 / Venue: Room III

Context and session description

The rapidly growing existence of AI in its various forms brings with it a range of ethical and pedagogical dilemmas. This workshop on responsible futures of AI in education aimed to develop the capacity of education stakeholders to consider how to act in the face of emerging dilemmas and tensions from the transforming futures of work. Workshop discussions revealed the ethical concerns of participants and developed approaches to responsible or irresponsible anticipatory practices of education teachers, researchers, students and work professionals. Central questions included what ongoing ethical stances and related responsible action principles need to address by reference to current and future practices in educational and work use of AI.

FACILITATORS

Mr Ted Fuller
UNESCO Chairholder on Responsible Foresight for Sustainable Development, University of Lincoln

Ms Anne Marchais-Roubelat
Associate Professor, National Conservatory of Arts and Crafts

Mr Fabrice Roubelat
UNESCO Chairholder on Foresight and Strategic International Intelligence and Professor, University of Poitiers

MODERATOR

Ms Daline Ly
Research Assistant, Future of Learning and Innovation, UNESCO

Key messages

- **Anticipatory action thinking:** Responsible educational futures require anticipatory action thinking: the capacity to actively explore alternative futures and use them to inform decisions today. By examining how human, organizational and ethical practices evolve over time, education stakeholders can shape AI integration responsibly. This approach recognizes that the future is not predetermined but can be co-created, enabling teachers, researchers and students to guide AI in ways that are inclusive, ethical and aligned with long-term societal aspirations.
- **Action-oriented and stakeholder-centred perspectives:** Building responsible futures involves understanding how diverse stakeholders and communities act, interact and shape outcomes. Decisions on AI adoption in education and work must be assessed not only for immediate benefits but also for their positive and negative long-term consequences. This requires cultivating the capacity to question whether present choices reflect the futures we envision. Emphasizing action-oriented and participatory approaches allows education practitioners to anticipate transformations and steer them toward equity, sustainability and human dignity.
- **Shaping responsible and ethical futures:** Anticipation is not only about predicting change but about creatively imagining alternatives while recognizing the contexts that shape our responses. Responsible anticipatory practices foster ethical awareness and empower educators, students and professionals to align AI use with shared principles of justice, inclusion and sustainability. By embedding responsible foresight in both education and the future of work, stakeholders can collectively design pathways that ensure AI enhances human capabilities, protects rights and contributes to equitable and resilient societies.

5.5 Futures workshops E: Dare to think differently: Imagining open education with AI

Date: 4 September 2025 / Time: 16.15-17.45 / Venue: Room V

Context and session description

Participants were invited to explore bold, divergent futures for AI in education. The session navigated both 'heaven' and 'hell' scenarios of AI's role in shaping open education, daring to think beyond the conventional. Through creative activities and collaborative discussion, the session examined the promise of AI to expand access to quality education, foster global collaboration and enable co-creation of open resources. It also considered how they can harness GenAI to support diverse voices and build equitable, connected educational futures. At the same time, critical concerns were discussed, such as many open educators remaining skeptical of AI's compatibility with the values of openness. Questions were raised about what AI means for access, intellectual property and trust in education, and whether it would empower or undermine our efforts.

FACILITATORS

Ms Anaïs Røed Malbrand
Senior Adviser, International Council for Open and Distance Education-ICDE, Oslo

Ms Chrissi Nerantzi
Professor in Creative and Open Education, University of Leeds

MODERATOR

Ms Christine Kavazanjian
Project Officer, Section for Management of Social Transformations and Foresight, Division for Social Policies, UNESCO

Key messages

- **AI futures are not fixed, and they are shaped by values, practices and choices**: Participants engaged with 'heaven and hell' scenarios to imagine both hopeful and troubling futures for AI in education. Their discussions revealed AI's dual potential: it can expand equity, inclusion and creativity, but also deepen bias, exclusion and threats to academic freedom. Creative artefacts such as drawings, poems, songs and metaphors captured these tensions, including a sketch of the 'assessment police,' which reframed surveillance as safeguarding. The key insight was that AI futures in education are complex and contested, demanding frameworks that embrace nuance, vigilance and hope.
- **Openness and collaboration are key to ensuring AI serves equity and the public good**: Participants emphasized that openness, diversity and collaboration are vital for shaping equitable AI-enabled education. Through creative artefacts, they expressed values of nurturing, curiosity, integrity, tolerance and social connection as essential anchors for future learning. Discussions underscored the importance of open licensing, co-creation and amplifying diverse voices to ensure AI serves the public good rather than narrow interests. The central message that emerged was clear: open education offers both the ethical compass and practical foundation needed to guide AI towards inclusive, human-centred futures.
- **Education systems must be reimagined with curiosity, integrity and humanity at their core**: In exploring how AI might reshape learning, institutions and assessment, participants imagined alternatives to traditional models. One group envisioned future 'centres of curiosity,' not just for credentialing but as collaborative spaces for self-discovery, research and community. Through drawings and discussion, they highlighted the need for curiosity-driven education that embraces openness and human connection. Across the groups, participants stressed that while AI can support and streamline processes, human judgement, criticality and creativity remain essential. AI compels us to redesign education around curiosity, integrity and human–AI complementarity.

5.6 Futures workshops F: Making sense of signals: The implications of AI for the future of education

Date: 4 September 2025 / Time: 16.15-17.45 / Venue: Room V

Context and session description

Six months ago, UNESCO's Futures of Education Programme opened a call for think pieces on the implications of AI for the future of education. From a submission pool of over 300 contributions, UNESCO has selected and published 15 essays as part of an ongoing series on its IdeasLAB webspace.

The think pieces advance novel arguments concerning the plausibility of personalized learning, the cultural consequences of predictive models for diverse education systems, the environmental consequences of AI deployed for educational use, and the value societies place on pedagogical relationships with humans and with machines. Each think piece can be understood as a kind of 'signal' – an idea and indication about what future of education is likely to involve and look like in a world evermore saturated in AI technologies. These are signals detected by the authors of the think pieces: students, teachers, administrators, policy-makers, parents and researchers, each working in very different national and local educational contexts.

The workshop considered how signals from the think pieces could deepen understandings of one of the many themes raised in the series regarding AI and education: Who (or what) would have agency in education in 2035, and what would this agency look like?

Through interactive presentations and discussions, participants and workshop facilitators surfaced insights about what signals they brought to questions and debates about AI and the future of education, and, crucially, how these signals enabled or constrained future inquiry, action and collaboration.

FACILITATORS

Ms Daniela Hau
Head, Innovation Department, Service de Coordination de la Recherche et de l'Innovation Pédagogiques et Technologiques

Mr Kenneth Y. T. Lim
Senior Research Scientist, National Institute of Education, Singapore

Ms Alexandra Okada
Associate Professor, The Open University UK

Mr Alan Jun Hao Tan
Research Assistant, Nanyang Technological University

Ms Elena Toukan
Research Coordinator, Futures of Learning and Innovation Division, UNESCO

Mr Mark West
Lead for the Futures of Education, Future of Learning and Innovation Division, UNESCO

MODERATOR

Ms Clare Stark
Head of Futures Literacy & Foresight, Section for Management of Social Transformations and Foresight, Division for Social Policies, UNESCO

Key messages

- **AI in education must enhance, not replace, human relationships.** AI tools are often presented as quick solutions, but they can undermine the essential relational aspects of teaching. For instance, in Colombia, access to Meta AI was provided in rural areas, but instead of improving learning outcomes, it created obstacles. Similarly, the Republic of Korea decided to cancel an AI textbook project after it proved ineffective. These examples highlight that while AI can bring innovation, education must remain centred on human interaction, trust and guidance between teachers and learners.

- **Agency in education is shifting and must remain inclusive**. The question of who holds agency in education in 2035 is critical: will it be AI operators and tech platforms, or educators and learners themselves? Futures thinking signals that power may shift away from teachers and communities if AI is overemphasized. Indigenous perspectives provide an important counterpoint: as Alexandra Okada noted, 'We must be the protagonists of our own story.' Too often, researchers extract data without reflecting local priorities. AI should instead empower communities to co-create knowledge and support their resilience.
- **The future of education must be meaningful, equitable and respectful of diversity**. Education in 2035 should not just adopt technology for efficiency—it must create learning environments that are inclusive and culturally relevant. For example, open schooling models can connect learners, educators and researchers to tackle real-world issues with digital support. Instead of framing AI only around problems like deforestation, we could ask: Where are Indigenous communities actively protecting the land, and how can AI strengthen these efforts? This approach shifts AI from being an external imposition to becoming a tool for equity, sustainability and intergenerational learning.

5.7 Futures workshops G: Global and local imaginaries: Speculating sociodigital futures in education

Date: 4 September 2025 / Time: 16.15-17.45 / Venue: Room VIII

Context and session description

This workshop created a space for Digital Learning Week's participants to analyse emerging AI-related trends, surface regional challenges and collaboratively explore opportunities for shaping more just, equitable and sustainable educational pathways. It was directed towards educators, researchers, youth leaders, policy actors and designers who seek to engage in proactive, context-sensitive approaches to AI in relation to education. Rather than assuming a singular (and predetermined) future, the session encouraged attendees to co-create plural, situated visions that address both historical injustices and contemporary dilemmas.

FACILITATORS

Ms Carolina Valladares-Celis
Senior Research Associate, Centre for Sociodigital Futures, University of Bristol

Ms Marisela Gutierrez Lopez
Senior Research Associate, Centre for Sociodigital Futures, University of Bristol

Ms Priscila Gonsales
Visiting Researcher, Centre for Sociodigital Futures, University of Bristol

MODERATOR

Ms Alina Kirillina
Project Officer, Futures of Learning and Innovation, UNESCO

Key messages

- The workshop highlighted four key actors shaping the future of education: policy-makers, industry, think tanks and civil society. Policy-makers are exploring AI to support student-teacher communication, though concerns remain about preserving student-teacher relationships. Ed-tech companies, largely based in the Global North, position themselves as experts, influencing global narratives while sidelining community-based alternatives. Think tanks, such as UNESCO, set standards and raise questions about education's purpose and relevance across diverse contexts. Civil society organizations emphasize the importance of grounding education in local realities, including the integration of technologies, advocating for inclusive, community-driven approaches that challenge and adapt global frameworks to local contexts.
- Local perspectives are essential for shaping educational futures rooted in relationships, community aspirations and needs. Participants critically reflected on the role of AI in education within their local contexts. Discussions explored the influence of global narratives, expressions of resistance and locally specific educational practices, alongside participants' aspirations and concerns regarding AI and ed-tech. Facilitators shared about a community-based initiative in which older adults and youth collaboratively envisioned the futures of education and technology. This intergenerational dialogue fostered mutual understanding and encouraged older participants to support younger generations, highlighting the value of inclusive, community-driven approaches to shaping educational futures.
- Individual and collective agency play an important role in shaping the futures of education. Our visions of the future are often rooted in dominant narratives from the past and present. However, there is no singular future. Futures are ancestral, cognitive and political. We must actively imagine alternative futures through personal reflection and shared dialogue. In the context of AI in education, emerging movements advocate for democratic decision-making, data sovereignty, reparative justice and the preservation of human care. Through a writing exercise and groupwork, participants identified core skills and values that could guide alternative educational futures.

6. Networking and engagement

6.1 Networking receptions

Networking receptions were held on 2, 3 and 4 September 2025, providing participants the opportunity to discuss the sessions of the day over refreshments.

The opening reception on 2 September was co-hosted by UNESCO and NetDragon Websoft, with opening remarks from Mr Simon Leung, Vice Chairman and Executive Director of NetDragon Websoft.

On 3 September, the networking reception was co-hosted by the UNESCO International Bureau of Education (IBE) and the Permanent Delegation of the Swiss Confederation to UNESCO, celebrating the official launch of the IBE Historical Digital Collections. With remarks from Ms Stefannia Giannini, Assistant Director-General of Education, H.E. Ambassador Benedikt Wechsler, Permanent Delegate of Switzerland to UNESCO, and Mr Sobhi Tawil, Director of IBE a.i., the launch provided a moment to reflect on the Bureau's rich historical legacy while looking forward towards the future of education and curriculum development.



(Above) Participants enjoying the refreshments and canapes of the networking reception on 2 September.



(Above) H.E. Ambassador Benedikt Wechsler delivering opening remarks for the launch of the IBE Historical Digital Collections.

(Below) Mr Simon Leung in discussion with attendees of the NetDragon Websoft co-hosted reception on 2 September.



(Below) Participants interacting with each other during the networking reception on 3 September.



6.2 Exhibition

Held from 2 to 4 September in the Salle des Pas Perdus at UNESCO Headquarters, the exhibition provided a dedicated space for organizations and partners to showcase their work, innovations, and engage directly with participants.

UNESCO highlighted a set of key publications, including the *AI competency framework for students*, the *AI competency framework for teachers*, *AI and the future of education: Disruptions, dilemmas and directions*, *Guidance for generative AI in education and research*, *AI and Education: Protecting the rights of learners* and Global Education Monitoring Report.

As part of the exhibition, Pearson, Infosys, UNICEF, ALEF Education, NetDragon Websoft, CODEMAO and Microsoft showcased a range of innovations in educational technology.



(Above) CODEMAO and UNICEF booths set up for the start of the Digital Learning Week exhibition.



(Above) NetDragon Websoft and OpenQ representatives interacting with event participants.

(Below) Pearson representatives in discussion with a Digital Learning Week participant.



(Below) An Infosys representative demonstrating a new technology to a participant.



7. Conclusion: Shaping human-centred AI futures for education

Digital Learning Week 2025 underscored that AI is no longer a distant or speculative force in education. It is already reshaping how learners learn, how teachers teach and how education systems are governed. Across four days of dialogue, debate and foresight, a clear message emerged: the central challenge is not whether AI belongs in education, but under what conditions it should be shaped, governed and used to serve education's humanistic, public purpose.

A key takeaway from the discussions was the importance of engaging with the philosophical foundations of education as a prerequisite for meaningful action. Conversations throughout the week repeatedly returned to fundamental questions about the purpose of education, the nature of learning and the values societies seek to uphold. This reflective work is not abstract or optional; it provides the compass for navigating AI's disruptions and dilemmas under conditions of uncertainty, complexity and rapid change.

The event also highlighted the need to navigate tensions rather than resolve them prematurely. Digital Learning Week 2025 surfaced deeply contested perspectives on AI in education, ranging from optimism about innovation and scale to caution about safety, equity and unintended consequences. Rather than reinforcing polarized narratives, the dialogue demonstrated the value of nuanced, evidence-informed and rights-based approaches that recognize both potential benefits and risks. Embracing this plurality of views is essential for developing policies and practices that are contextually relevant, ethically grounded and socially just.

Throughout the week, participants reaffirmed the irreplaceable role of teachers. While AI tools may support instructional design, assessment or administrative tasks, they cannot replace the relational, ethical and pedagogical judgment at the heart of quality education. Strengthening teacher agency, professional learning and collective capacity emerged as a cornerstone of responsible AI integration, aligned with UNESCO's AI Competency Frameworks and recent global commitments to the teaching profession.

Equally prominent were concerns around governance, safety and ethics. Discussions underscored the urgency of robust frameworks to protect learners and educators from risks related to data privacy, algorithmic bias, opacity and commercialization. Participants emphasized that education systems must move beyond reactive approaches and towards anticipatory governance that can keep pace with rapidly evolving technologies while safeguarding human rights and public trust.

Digital Learning Week 2025 also drew attention to emerging AI-related inequalities. Beyond persistent digital divides, participants warned of a growing 'AI divide' shaped by disparities in infrastructure, data access, skills and decision-making power. Addressing these inequities requires deliberate investment, inclusive design and policies that prioritize marginalized learners and contexts rather than reproducing dominant models.

A recurring theme across sessions was the importance of local relevance and design dignity. Participants stressed that AI systems in education must be responsive to local languages, cultures and knowledge systems, and that educators and communities should be engaged not only as users but as co-creators. Approaches grounded in dignity by design offer pathways to reclaim agency and ensure that AI reflects diverse educational realities rather than imposing uniform solutions.

Finally, the event reinforced the need for global solidarity and a shared commons for dialogue and action. The scale and complexity of AI's influence on education exceeds the capacity of any single actor or country. Progress will depend on sustained international cooperation, shared standards and

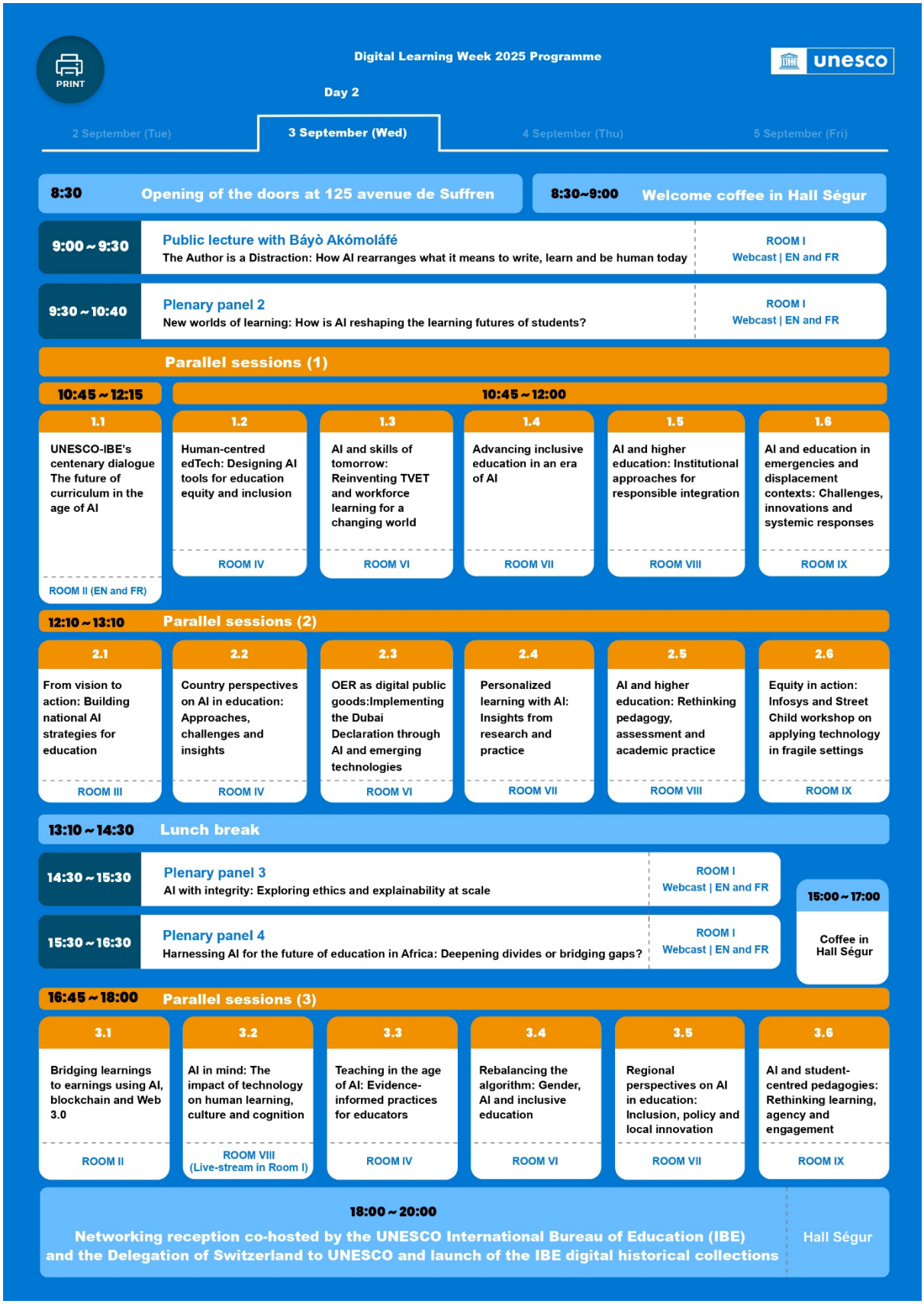
open spaces where governments, educators, researchers, learners and industry can collectively shape inclusive and equitable AI futures.

Looking ahead, the work initiated and deepened at Digital Learning Week 2025 calls for continued commitment, imagination and courage. As AI becomes further embedded in education systems, decisions made today will have long-lasting implications for learners and societies. Anchoring these decisions in evidence, values and human dignity will be essential to ensuring that AI supports education as a common good and contributes to more just, inclusive and hopeful learning futures for all.

Annex

I. Programme overview




PRINT
Digital Learning Week 2025 Programme
unesco
Day 2
2 September (Tue)
3 September (Wed)
4 September (Thu)
5 September (Fri)
8:30 Opening of the doors at 125 avenue de Suffren
8:30~9:00 Welcome coffee in Hall Ségur
9:00 ~ 9:30 Public lecture with Báyò Akómoláfé
The Author is a Distraction: How AI rearranges what it means to write, learn and be human today
ROOM I
Webcast | EN and FR
9:30 ~ 10:40 Plenary panel 2
New worlds of learning: How is AI reshaping the learning futures of students?
ROOM I
Webcast | EN and FR
Parallel sessions (1)
10:45 ~ 12:15
10:45 ~ 12:00
1.1
UNESCO-IBE's centenary dialogue The future of curriculum in the age of AI
ROOM II (EN and FR)
1.2
Human-centred edTech: Designing AI tools for education equity and inclusion
ROOM IV
1.3
AI and skills of tomorrow: Reinventing TVET and workforce learning for a changing world
ROOM VI
1.4
Advancing inclusive education in an era of AI
ROOM VII
1.5
AI and higher education: Institutional approaches for responsible integration
ROOM VIII
1.6
AI and education in emergencies and displacement contexts: Challenges, innovations and systemic responses
ROOM IX
12:10 ~ 13:10 Parallel sessions (2)
2.1
From vision to action: Building national AI strategies for education
ROOM III
2.2
Country perspectives on AI in education: Approaches, challenges and insights
ROOM IV
2.3
OER as digital public goods:Implementing the Dubai Declaration through AI and emerging technologies
ROOM VI
2.4
Personalized learning with AI: Insights from research and practice
ROOM VII
2.5
AI and higher education: Rethinking pedagogy, assessment and academic practice
ROOM VIII
2.6
Equity in action: Infosys and Street Child workshop on applying technology in fragile settings
ROOM IX
13:10 ~ 14:30 Lunch break
14:30 ~ 15:30 Plenary panel 3
AI with integrity: Exploring ethics and explainability at scale
ROOM I
Webcast | EN and FR
15:30 ~ 16:30 Plenary panel 4
Harnessing AI for the future of education in Africa: Deepening divides or bridging gaps?
ROOM I
Webcast | EN and FR
15:00 ~ 17:00
Coffee in Hall Ségur
16:45 ~ 18:00 Parallel sessions (3)
3.1
Bridging learnings to earnings using AI, blockchain and Web 3.0
ROOM II
3.2
AI in mind: The impact of technology on human learning, culture and cognition
ROOM VIII
(Live-stream in Room I)
3.3
Teaching in the age of AI: Evidence-informed practices for educators
ROOM IV
3.4
Rebalancing the algorithm: Gender, AI and inclusive education
ROOM VI
3.5
Regional perspectives on AI in education: Inclusion, policy and local innovation
ROOM VII
3.6
AI and student-centred pedagogies: Rethinking learning, agency and engagement
ROOM IX
18:00 ~ 20:00
Networking reception co-hosted by the UNESCO International Bureau of Education (IBE) and the Delegation of Switzerland to UNESCO and launch of the IBE digital historical collections
Hall Ségur


PRINT
Digital Learning Week 2025 Programme
Day 3
unesco
2 September (Tue)
3 September (Wed)
4 September (Thu)
5 September (Fri)
9:00 Opening of the doors at 125 avenue de Suffren
9:00 ~ 9:30 Welcome coffee in Hall Ségur
9:45 ~ 10:15
Spark talk with Nina da Hora
From design to dignity: Co-creating AI for the common good
ROOM I
Webcast | EN and FR
10:15 ~ 11:15
Fireside chat
Challenging automated inequalities: Co-creating equitable learning futures with AI
ROOM I
Webcast | EN and FR
11:15 ~ 12:15
Plenary panel 5
Futures thinking, futures being: Exploring possible, preferable and plural education futures
ROOM I
Webcast | EN and FR
12:15 ~ 12:30
Closing
ROOM I
Webcast | EN and FR
12:30 ~ 14:30
Lunch break
14:30 ~ 16:00 Futures workshops
14:30 ~ 16:00 Parallel sessions (4)
A
Futures for AI in educational leadership
ROOM III
B
Outpaced: When the world changes faster than children grow
ROOM VI
C
Anticipating 2050: AI and education in Africa
ROOM VIII
4.1
Human rights, AI and the future of the right to education
ROOM I
4.2
Digital citizenship in the AI era: Values, competences and youth empowerment
ROOM IV
4.3
AI for all abilities: Building accessible learning technologies
ROOM IX
15:00 ~ 17:00
Coffee in Hall Ségur
16:15 ~ 17:45 Futures workshops
16:15 ~ 17:45 Parallel sessions (5)
D
Responsible educational futures and the futures of work: Engaging education stakeholders in responsible AI
ROOM III
E
Dare to think differently: Imagining Open Education with AI
ROOM V
F
Making sense of signals: The implications of AI for the future of education
ROOM VII
G
Global and local imaginaries: Speculating sociodigital futures in education
ROOM VIII
5.1
Reimagining equity in education: AI and education in rural and low-resource environments
ROOM IV
5.2
Unpack the "Black Box": Technical affordances and limits of AI models for education
ROOM I
5.3
AI-supported approaches to climate and sustainability learning
ROOM IX
18:00~20:00 Networking reception
Hall Ségur



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II. Endnotes

[1] Chandar, B. 2025. *AI and Labor Markets: What We Know and Don't Know*. Palo Alto, Stanford. Available at: https://digitaleconomy.stanford.edu/news/ai-and-labor-markets-what-we-know-and-dont-know (Accessed 31 March 2026.)

[2] Weizenbaum, J. 1985. Weizenbaum examines computers and society. *The Tech*, Vol. 105, No. 16. Cambridge, MIT. Available at: https://web.archive.org/web/20090325194547/https://tech.mit.edu/V105/N16/weisen.16n.html (Accessed 20 November 2025.)

[3] European Union. 2016. *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)*. Brussels, Official Journal of the European Union. Available at: http://data.europa.eu/eli/reg/2016/679/oj (Accessed 20 November 2025.)

[4] Simon, H. A. 1970. *The Sciences of the Artificial.* Cambridge, MIT Press.

[5] Hanushek, E.A. and Peterson, P.E. 2014. Higher Grades, Higher GDP. *Hoover Digest: Research & Opinion on Public Policy*, 2014 Vol. 1. Palo Alto, Stanford University. Available at: https://www.hoover.org/research/higher-grades-higher-gdp (Accessed 25 November 2025.)

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Digital Learning Week 2025

AI and the future of education

2-5 September 2025, UNESCO Headquarters, Paris, France

This report presents the key insights and outcomes of Digital Learning Week 2025, UNESCO's flagship global forum on digital learning and the transformation of education. Held in Paris under the theme 'AI and the future of education: Disruptions, dilemmas and directions', the event convened ministers, policy-makers, educators, researchers, civil society and industry leaders from around the world to examine how artificial intelligence is reshaping education systems, teaching practices and learning experiences.

Drawing on high-level dialogues, keynote reflections, plenary debates and practical case studies, the report highlights the urgency of shaping AI in ways that are human-centred, equitable, safe and ethically governed. It captures diverse and sometimes contested perspectives, while underscoring shared priorities: protecting the irreplaceable role of teachers, addressing emerging AI-related inequalities, strengthening governance and safeguards, and ensuring that AI serves education as a common good. Together, these insights offer guidance for navigating the complex choices ahead and for imagining inclusive and responsible AI futures for education worldwide.

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4 QUALITY EDUCATION

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