Education
Sector

UNESCO
United Nations
Educational, Scientific and
Cultural Organization

International Forum

AI and the Futures of Education

Developing Competencies for the AI Era

7-8 December 2020

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Background

A world of hope and change with increasing complexity, uncertainty and fragility

We live in a world of hope and change with increasing complexity, uncertainty, and fragility. The scale of climate change and its implications are worse than what had been imagined even five years ago when the 2030 Sustainable Development Goals were adopted. Persistent inequalities, social fragmentation, and political extremism continue to undermine social cohesion. Advances in digital communications, artificial intelligence, and biotechnology are fundamentally transforming the way we live, work, communicate, process knowledge and learn. While these technological disruptions hold great promise for improving human welfare, they also raise ethical, social and legal concerns.

The economic and social disruption caused by the COVID-19 pandemic has further heightened this complexity, uncertainty, and fragility. The disruption resulting from the pandemic has exposed the vulnerabilities of our societies and our education systems and is further exacerbating the pre-existing learning crisis. Although all countries have adopted some modality of remote learning in their national education response in the form of online platforms, TV and radio programmes and take-home packages, the coverage has been extremely uneven and millions of learners have been left without any continuity of learning. Recent survey data clearly indicates that learning loss has been more acute in low- and lower-

middle-income countries than in high-income countries (UNESCO, UNICEF and the World Bank October 2020). Disengagement and the risk of drop out is highest for the most vulnerable, with the number of children out of school likely to increase by at least 24 million as a result of the pandemic. In response, UNESCO has taken a holistic approach to strengthening international cooperation to support Member States to enhance distance learning solutions, support the safe reopening of schools and to reimagine more resilient learning systems for the future.

The Futures of Education initiative

The current crisis also highlights the urgency of charting the possible futures of education. Recognizing that knowledge and learning are humanity's greatest renewable resources for responding to challenges and inventing alternatives, UNESCO launched a Futures of Education Initiative in late 2019 before the outbreak of the Covid-19 pandemic. The Initiative aims to rethink the role of education, learning and knowledge in light of the tremendous challenges and opportunities of futures. Such re-visioning of knowledge, education and learning is more relevant than ever. Indeed, accelerated technology transformations over recent years, in particular in the field of Artificial Intelligence (AI), and their rapid deployment in work, life and learning have profound implications for the future of education. AI is largely believed to hold transformative powers in reshaping human society and life, and will likely bring human history to a new era where we need to live and work together with AI. These transformations represent both challenges and opportunities that need to be carefully examined.

The Beijing Consensus on Artificial Intelligence and Education

To support education policy and planning in the era of AI, UNESCO, the Ministry of Education of the People's Republic of China, and the National Commission of the People's Republic of China for UNESCO co-organized the first International Conference on AI and Education (Beijing, May 2019). The conference resulted in the first international consensus on AI and education, the Beijing Consensus. Through the Beijing Consensus, guiding principles and concrete recommendations were provided in response to three fundamental questions: (1) How can education systems ensure the ethical, inclusive and equitable use of AI in education? (2) How can education prepare humans to live and work with AI? (3) How can AI be leveraged to enhance or reinvent education?

The Beijing Consensus recognizes the distinctive features of human intelligence. It reaffirms UNESCO's humanistic and ethical approach to the use of AI with a view to protecting human rights and preparing all people with the appropriate competencies (knowledge, skills and values) needed for effective human–machine collaboration in life, learning and work, and for sustainable development. The Beijing Consensus affirms that while AI provides opportunities to support teachers in their educational and pedagogical responsibilities, human interaction and collaboration between teachers and learners must remain at the core of the educational process. It reaffirms that teachers cannot be displaced by machines. While we should be cognizant of trends regarding the potential of AI to support and transform learning and learning assessments, it is important to note that evidence on the impact of AI in improving learning outcomes of subject-specific learning and the development of interdisciplinary competencies remains scarce. Curriculum review to promote the in-depth integration of AI and transformation of learning and the

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development of AI tools for education should be centred on teachers and students. The deployment of AI in classrooms and beyond should be in the service of people to enhance human capacities.

The Beijing Consensus recommends that governments and other stakeholders among UNESCO's Member States consider implementing system-wide actions in response to the education-related opportunities and challenges presented by AI. More specifically, it highlights the emergence of a set of AI literacy skills required for effective human–machine collaboration at the AI era. One and a half years after the adoption of the Beijing Consensus and during the aftermath of the COVID-19 education disruption, it is imperative to examine what institutional actions have been taken in defining the competencies needed for the AI era, and how future education systems can develop them as an integral part or core sets of skills for all.

Aim

It is in this context that UNESCO, the Ministry of Education of the People's Republic of China, and the National Commission of the People's Republic of China for UNESCO will co-organize an online edition of the International Forum on Artificial Intelligence and the Futures of Education from 7 to 8 December 2020 under the theme *Developing Competencies for the AI Era.*

The Forum will follow up on the implementation of the Beijing Consensus. The Beijing Consensus recommends that UNESCO reinforce the leading role of AI in education across concerned sectors and mobilize the Organization's institutes and networks with a specific focus on the integration of AI skills into ICT competency frameworks. It also recommends UNESCO to further expand its cooperation in the field of AI in education with relevant partners.

Devoted to the theme of *Developing Competencies for the AI Era*, the online Forum will share policies and practices in defining the competencies required in the AI era, and examine the strategies to prepare all people to live and work with AI effectively.

Subthemes

The Forum will be structured under the following sub-themes:

1. **The future of education in light of challenges and opportunities of AI** – Convene a debate on how AI will shape the future of humanity and education, and review the implications of AI for the inclusion, equity, and quality of learning.

2. **Core competencies required for living and working with AI** – Anticipate the competencies required for living and working effectively with AI, define AI skill frameworks with a focus on K-12 schools, share best practices in developing AI curricula and teaching resources as well as in preparing teachers to teach AI.

3. **Curriculum development in the AI era** - Focus on the transformation of curriculum and textbooks in all disciplines at all levels to meet the needs of students' key competencies development in the AI era.

4. **Ethical and effective use of AI in learning and teaching** – Share evidence-informed effective models of using AI in learning and teaching, reveal ethical issues and share coping strategies.

Target Participants

The Forum mainly targets invited participants. It is expecting around 200 participants with about 100 international representatives. The participants will include Ministers of Education and/or ICT, senior policy-makers, experts from international organizations, representatives of private sector partners and civil society organizations, prominent academic researchers, and managers of selected AI in education projects.

Co-organizers

The Forum is co-organized by:
- United Nations Educational, Scientific and Cultural Organization
- Ministry of Education of the People's Republic of China
- National Commission of the People's Republic of China for UNESCO

The following institutes provide support in hosting the Forum:
- UNESCO International Bureau of Education
- UNESCO Institute for Information Technologies in Education
- Beijing Normal University

Financial support has been provided by:
- The Tomorrow Advancing Life Education Group
- The WeiDong Education Cloud

Working Languages

Interpretation services will be provided in English, French and Chinese.

Provisional Programme Structure

[China Standard Time (CST), UTC+8]

Day 1 (7 December)		Day 2 (8 December)	
17:00-18:30	Opening Session and High-level Panel 1 Sign in	15:00-16:30	Special Session Consultation on the Futures of Education Sign in
		16:30-17:00	Break
		17:00-18:30	Parallel Session 1 Curriculum and textbooks in the AI era Sign in
			Parallel Session 2 Effective and ethical use of AI in learning and teaching Sign in
			Parallel Session 3 Supporting African countries' education development for the coming AI Era Sign in
18:30-18:40	Break	18:30-18:40	Break
18:40-20:10	Plenary Session Defining and developing AI competencies in the context of the futures of education Sign in	18:40-19:50	High-level Panel 2 Empowering Women and Youth Sign in
20:10-20:40	Plenary Session (continued without interpretation) Defining and developing AI competencies in the context of the futures of education Sign in	19:50-20:10	Closing Session Sign in

High-level Panel 1 is scheduled back to back with the Opening Session, and presents speeches of ministers of education on national strategies for promoting the use of AI to enhance education and to build the futures of learning.

Plenary Session convenes discussions on how AI will shape the future of humanity and education, and review the implications of AI to reimagine knowledge and education guided by the principle of inclusion and equity in access to quality learning opportunities, and is composed of experts in the field of AI skills

development to allow participants from around the world to share experiences, demonstrate innovative examples, and plan joint actions in defining the competencies required by living, working and learning with AI.

The **Special Session** will invite Chinese scholars, policy-makers and educators to share their perspectives on the Futures of Education in order to enrich the deliberations of the International Commission on this initiative.

Parallel Session 1 aims to inspire participants to think deeply about the reconstruction of education systems, especially the development of curriculum and textbooks to unleash the potential of AI in developing human competencies in a changing context.

Parallel Session 2 promotes the ethical application of trusted AI technology for education, and the sharing of evidence-informed effective practices in using AI in learning, teaching, monitoring and evaluation, and management of education. It also aims to examine ethical issues related to the use of AI in different learning settings and reviews effective mitigation strategies.

Parallel Session 3 focuses on supporting African countries in the development of strategic foresight and operational capacities in response to the emerging challenges and opportunities of the Fourth Industrial Revolution, with a focus on teaching and leveraging AI to enhance education. It is guided by the principle that the new technologies should be leveraged, through South-South dialogue and cooperation, to accelerate the development of education in Africa and ensure that the continent benefit from the AI era together with the other regions.

The session will also serve as a follow-up action to other initiatives set out within the framework of UNESCO's Global Priority Africa, in particular (1) the 2018 [Benguerir Outcome Statement](#) adopted at UNESCO's First Forum on Artificial Intelligence in Africa; and (2) the UNESCO/OCP Foundation Project entitled [Imagining Africa's Futures](#), which aims at developing foresight skills in Africa among young talents and high-level decision makers to contribute more effectively to positive social transformations on the continent, including in areas such as education and AI.

High-level Panel 2 will present possible ways forward for key international partners on promoting equitable and ethical use of AI in education with a focus on gender equality in designing and using AI, and share strategies for developing AI competencies for women and youth.

Technical specifications

The event uses Zoom applications to support the live sessions, and use an online conferencing website to support the registration, the update of live sessions, and networking among participants. Live streaming platforms will be used to expand real-time participation.

Stay in touch

International Forum on AI and the Futures of Education

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