STUDY GUIDE

Promoting Ethical AI in Education

Discuss the ethical use of AI in education systems

St PETER'S SCHOOL Barcelona

SMUN 2030

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1. Letter from the chairs

Dear esteemed Delegate,

It is with great pleasure to warmly welcome you as delegates of the United Nations Education, Sciences and Cultural Organization. We are Sofia and Princia, chairs of the UNESCO committee and we are very glad to accompany you during this MUN Conference. Your presence in this committee involves commitment to shape the future of education on a global scale, and we are thrilled to have you on board.

Your role as delegates is not just about debating policies and winning arguments, but also advocate for equitable and innovative ways to find solutions through diplomacy and dialogue. UNESCO is a bridge that builds a more inclusive and knowledge-driven world.

Sofia and I deem relevant to offering valuable tips in order to help you enhance your MUN experience that for many of you might be your first time.

We want to encourage you to immerse yourselves in the multifaceted landscape of AI in education, therefore you should do in-depth research before and during the conference so that you are not only experts on the topic but also good representatives of your country. Also, it is important that you are informed about current affairs and technological advancements in education. A well-informed delegate is better equipped to navigate the evolving landscape and contribute to forward-thinking policies. Moreover, we want you to build connections with your fellow delegates, in order to forge alliances that amplify the impact of your advocacy you should also seek networking outside of formal sessions that will also help you to lead to more robust solutions.

Being a delegate in UNESCO is a profound commitment. You're not merely representing a nation; you are embodying the ideals of a global community dedicated to fostering inclusive and transformative education.

We are looking forward to meeting you all in the upcoming session and seeing what fruitful debates come out of your deliberations.

Best regard,

Sofia and Princia

Chair’s of the UNESCO Committee

2. About the committee

The United Nations Education, Sciences and Culture Organization (UNESCO) was established in November 1945 during the London Conference, where the fundamental goals and objectives of the Organization were stated. UNESCO aims to promote peace and security through international cooperation on the fields of science, education and cultural heritage, by working on the fostering and comprehension among different cultures, promoting a quality education for all the children, advancing scientific research, and safeguarding cultural heritage worldwide. The UNESCO goals also align with the Sustainable Development Goals (SDG) of the United Nations. For instance, SDG 4 ensures an inclusive and equitable education and also promotes lifelong learning opportunities for all; also, SDG 5 promotes advances towards gender equality and women's empowerment. Moreover, SDG 13 seeks the building of scientific knowledge and the capacities needed to address the major challenges of sustainable development and climate change.

Nowadays, the organisation is made up of the 193 Member States represented in the United Nations General Assembly, however, in their first conference held in Paris in the 1949, the UNESCO was only made of the 30 original founding member states along with the new 14 member states, such as Belgium, Denmark, Cuba, Colombia, Ethiopia and Yugoslavia. Since its founding, the UNESCO has accomplished several achievements, for instance this would include, the Universal Copyright Convention in 1952, the World Heritage Convention in 1972 or the Convention for the Safeguarding of the Intangible Cultural Heritage in 2003 that aim to protect and work towards the protection of cultural expressions and practices that had been transmitted from generations like oral traditions, performing arts, festive events and rituals or social practices.

In order to fulfil its mission, UNESCO undertakes a variety of initiatives, which include the creation of prospective studies with the aim of examining and promoting new forms of education, as well as the implementation of culture and communication for the future. Additionally, the organisation is engaged in the analysis and development of knowledge exchange, using research, universal training, and education as vehicles for information transfer. It also strives for the establishment of standards, seeking international collaboration to achieve the pursued goals.

Furthermore, UNESCO is involved in the documentation and creation of expertise, transmitted exclusively under the cooperation of Member States to drive their development policies at the technical level. An essential element of this work is the exchange of specialised information between Member States, which is vital for the achievement of the Organization's objectives.

However, these actions have their limitations, since they cannot solve all the world's problems. The decisions made by this organisation cannot be imposed on the member states as well as the other actors that take part in the deliberations. In addition, the UNESCO Member States's national governments and civil societies roles and responsibilities cannot be undertaken by the UNESCO organisation. Furthermore,

UNESCO is not allowed to provide funding or individualised assistance to a specific project or individual.

3. Key terms

- **Artificial Intelligence (AI):** AI refers to the development of computer systems that can perform tasks that typically require human intelligence. In education, AI is employed to simulate intelligent behaviour, automate routine tasks, and provide personalised learning experiences
- **Generated AI:** Generated AI refers to artificial intelligence systems created through automated processes, such as machine learning or natural language processing. These systems are not explicitly programmed but evolve through training on vast datasets.
- **Automated Assessment Systems:** Automated Assessment Systems employ AI to evaluate and grade student performance without manual intervention. Utilising machine learning algorithms, these systems analyse responses to quizzes, assignments, or exams, providing instant feedback and freeing educators from time-consuming grading tasks by adapting to diverse question formats and patterns.
- **Personalised Learning**: AI in education facilitates personalised learning experiences by analysing individual student performance, preferences, and learning styles. This allows for tailored educational content and pacing to better meet the needs of each student.
- **Adaptive Learning Systems:** These systems use AI to adapt instructional content and methods based on a student's progress, ensuring that the material aligns with their current level of understanding. Adaptive learning can help students learn at their own pace.

4. Introduction to the topic

4.1 Historical context of the AI in Education

In the contemporary landscape of education, the integration of Artificial Intelligence (AI) has emerged as a transformative force, reshaping traditional paradigms and unlocking new possibilities for teaching and learning. As we stand at the intersection of technology and education, AI offers a promising avenue to address diverse challenges and optimise educational experiences.

Artificial Intelligence is the branch of computer science that aims to create machines and systems that can perform tasks that normally require human intelligence, such as reasoning, learning, and problem-solving, Said systems are information-processing technologies that integrate models and algorithms that produce a capacity to learn

and to perform cognitive tasks leading to outcomes such as prediction and decision-making in material and virtual environments.

The history of AI brings us back to 1956 where John McCarthy organised a conference at Dartmouth College and first gave a name to the new technology that Alan Turing created. In that conference , several research groups from diverse universities across the US discussed the potential and challenges of simulating human intelligence in machines, making that moment the birth of AI as a field of study. In the 1970s, AI encountered a crisis since it lost credibility as it failed to meet the high expectations and ambitious goals proposed by McCarthy. Later on, during the 1990s and 2000s, AI started growing rapidly, letting technology evolve and it became more integrated with other fields and disciplines, such as robotics, computer vision and speech recognition.

AI has been advancing rapidly in recent years creating new, powerful computing resources and breakthroughs in algorithms and techniques, thanks to the availability of large amounts of data. AI has been applied to various domains, such as health, business, entertainment, and security, with remarkable results and impacts, allowing remarkable breakthroughs surpassing human performance in tasks such as image recognition, speech synthesis and game playing.

4.2 AI evolution within education

There are different ways to classify Artificial Intelligence within education. One of the ways is using criteria based on how students learn and how far they can apply knowledge. According to this classification, there are three types of AI: Firstly, Artificial Narrow Intelligence (ANI) can perform a single task, but it cannot perform outside of this defined task. Second, Artificial General Intelligence (AGI) can learn and perform any intellectual task that a human can and uses previous learnings and skills to accomplish new tasks in different contexts without human intervention.

Third, AI can be classified by how this programme resembles the human mind and their ability to think and feel like human beings. This includes (a) reactive machines which is the most simple type of AI that only reacts to a current situation and cannot use memory or experience to inform their actions, (b) limited Memory Machines which can use past data and experience to inform actions and are limited on store access and long-term memory and (c) self-aware machines that can have self-consciousness and self-awareness.

One of the domains where AI has the potential to make a significant difference is education. However, our goal of quality education faces many challenges, such as access, quality, equity, and relevance. AI can help address these challenges by providing innovative solutions that can enhance the learning process and outcomes for students, teachers, and institutions.

AI in education is not merely a futuristic concept but a dynamic reality, revolutionising how knowledge is imparted and acquired. This convergence of advanced technology and pedagogy holds the potential to usher in an era of personalised, adaptive, and

efficient learning environments. From tailoring educational content to individual needs to providing real-time feedback, AI is redefining the educational landscape at every level.

AI technologies can be used as methods to support and improve various aspects of education, such as curriculum design, content delivery, feedback, and administration. It can also enable personalised learning, adaptive learning, intelligent tutoring, automated grading, data analysis, natural language processing, virtual reality, and augmented reality, among others. These applications can help create more engaging, interactive, and customised learning experiences that can cater to the diverse needs and preferences of individual learners.

AI in education is a fascinating and promising field that can transform the way we learn and teach. By exploring the opportunities and challenges of this topic, we can envision and shape the future of education in the era of AI.

5. Current situation

5.1 AI Usage in education

Artificial Intelligence (AI) has the potential to address some of the biggest challenges in education today, innovate teaching and learning practices, and accelerate progress towards SDG 4. AI can enhance human capacities and protect human rights for effective human-machine collaboration in life, learning, work, and for sustainable development.

UNESCO is committed to supporting Member States to harness the potential of AI technologies for achieving the Education 2030 Agenda, while ensuring that its application in educational contexts is guided by the core principles of inclusion and equity. They have developed a publication aimed at fostering the readiness of education policy-makers in artificial intelligence.

The Artificial Intelligence and the Futures of Learning project by UNESCO builds on the Recommendation on the Ethics of Artificial Intelligence adopted at the 41st session of the UNESCO General Conference in 2019. This project addresses both the human and technological dimensions related to AI and the futures of learning. It consists of three independent but complementary strands: AI and the Future of Learning, Guidance for Generative AI in education and research, and AI Competency Frameworks for Students and Teachers.

5.2 Benefits of AI in Education

AI in education can be applied in various ways. One prominent application is Intelligent Tutoring Systems, which provide individualised instruction and feedback to students. These systems adapt content, pace, and difficulty to meet the unique needs

and preferences of each learner. Employing techniques like data mining, learning analytics, or machine learning, they model students' knowledge, behaviour, and affect, generating recommendations, hints, or explanations.

Another noteworthy application involves Virtual Pedagogical Agents, animated characters or avatars that interact with students through natural language, gestures, or facial expressions. Acting as tutors, peers, or learning facilitators, these agents utilise techniques such as natural language processing, speech recognition, or computer vision to communicate with students. They can recognize emotions, intentions, or mental states, creating a more engaging learning environment.

Additionally, AI contributes to education through Automated Assessment Systems. These programs automatically grade students' responses to various question types, including multiple-choice, short answer, or essay questions. By employing semantic analysis, syntactic analysis, or natural language generation techniques, these systems evaluate the quality, relevance, or originality of students' answers.

These applications represent just a glimpse of the diverse possibilities within AI in education. Content generation systems, gamification systems, teacher assistance systems, and learning management systems are among the numerous other avenues where AI is making an impact. As an interdisciplinary and constantly evolving field of research, AI in education presents both significant challenges and opportunities for enhancing the quality, equity, and efficiency of education in the 21st century.

5.3 Risk of AI in Education

AI in education also poses some challenges and risks, such as ethical, social, and legal issues, data privacy and security, algorithmic bias and fairness, digital divide and inclusion, and the role and impact of AI on human educators. The ethical use of the AI has been questioned, many estate members have raised awareness of the harmful use of the AI under the wrong hands, for instance the Prime Minister of the United Kingdom Rishi Sunk stated that "*There will be nothing more transformative to the futures of our children and grandchildren than technological advances like AI*"

In order to prevent the despotic use of AI, the United Nations Inter-Agency Working Group on Artificial Intelligence of the High-Level Committee On Programs established in 2021 a guidance document that helps Member Estates to implement AI without harming human rights and fundamental freedoms. This document includes 10 values and 10 principles that should guide ethical development such as human dignity, beneficence and normal efficiency, autonomy and human oversight, justice and equity.

Therefore, it is important to ensure that AI in education is developed and implemented in a responsible, ethical, and human-centred manner, with the involvement and collaboration of various stakeholders, such as educators, researchers, policymakers, and learners.

According to UNESCO there are several implications that could lead to an unethical use of the GenAI. They consider that these implications put at risk some principal

goals of the UN SDGs. First of all, they claim that the use of AI can lead to the worsening of digital poverty, as access to data becomes increasingly essential for the economic development of countries and for the digital opportunities of individuals, those countries and people who do not have access to or cannot afford enough data are left in a situation of 'data poverty'. The rapid pervasion of GenAI in technologically advanced countries and regions has accelerated exponentially the generation and processing of data, and has simultaneously intensified the concentration of AI wealth in the Global North. Also AI can outpace national regulatory adaptation, while AI may augment human capacities in completing certain tasks, there is limited democratic control of the companies that are promoting AI. This raises the question of regulations, in particular in respect of access to, and use of, domestic data including data on local institutions and individuals as well as data generated on the countries' territory.

Another way AI can challenge ethics is by the lack of understanding of the real world, the disconnect between GenAI models 'appearing' to understand the text that they use and generate, and the 'reality' that they do not understand the language and the real world can lead teachers and students to place a level of trust in the output that it does not warrant. This poses serious risks for future education. Indeed, GenAI is not informed by observations of the real world or other key aspects of the scientific method, nor is it aligned with human or social values. For these reasons, it cannot generate genuinely novel content about the real world, objects and their relations, people and social relations, human-object relations, or human tech.

In order to prevent the negative drawback of AI usage the UNESCO in their review of april 2023, suggested a series of seven steps that governmental agencies can take to regulate generative, this includes endorsing international or regional general data protection regulations, adopt and fund whole-of-government strategies on AI, solidify and implement specific regulations on the ethics of AI, adjust or enforce existing copyrights laws to regulate AI-generated content, elaborate regulatory frameworks on generative AI, build capacity for proper use of GenAI in education research and reflect on the long-term implications of GenAI for education and research.

Even though the lack of personal connection along with the inability of evolve in relational problems and lack of social skills, the AI can also improve and advance the knowledge of the students, this AI-powered tools can analyse data on student performance and provide tailored support to improve school performance helping in a more personalised learning environment, it can also automate repetitive tasks for educators allowing them to quickly grade assignments and quizzes making. In addition, AI tools can improve the students' engagement and motivation, since the use of AI applications in teaching can enhance the learning experience in many ways such as personalised learning exercises due to the use of AI algorithms that adjust to the diverse learning process of each student.

Artificial Intelligence holds immense potential to revolutionise education, addressing challenges, fostering innovation, and advancing progress toward Sustainable

Development Goal 4. UNESCO is actively committed to guiding the responsible use of AI in education, emphasising inclusivity and equity. The Artificial Intelligence and the

Futures of Learning project exemplifies this commitment, tackling human and technological dimensions through various strands. AI applications, such as Intelligent Tutoring Systems, Virtual Pedagogical Agents, and Automated Assessment Systems, showcase the versatility and impact of AI in enhancing learning experiences.

However, ethical concerns, digital inequality, and the need for regulatory frameworks demand careful consideration. UNESCO's guidance on ethical AI development underscores the importance of values and principles in mitigating risks. The potential for AI to exacerbate digital poverty, regulatory challenges, and its limited understanding of the real world necessitate proactive measures. UNESCO's proposed steps for regulating generative AI underscore the importance of international collaboration, ethical frameworks, and capacity-building. Despite challenges, AI contributes to personalised learning, automates tasks, and enhances student engagement, showcasing its positive potential in education. Balancing the benefits with ethical considerations is crucial for responsible AI integration, ensuring a human-centred approach with positive long-term implications for education and research.

6. Bloc positions

AI in education is a topic that has generated a lot of interest and debate around the world. Different countries have different perspectives, challenges, and opportunities regarding the use of AI in education. Thus the approaches that countries make on the topic vary as well. In order to help you to establish what blocs approach the topics a similar way here it is a debriefing of some of the countries' position:

Singapore: Singapore is one of the most pioneer countries regarding AI usage in education, they have initiatives that seek to make AI accessible for everybody such as AI for Everyone which aims to equip every student with basic AI literacy and skills. Singapore also launched the National AI Strategy in 2019, which includes education as one of the key domains for AI transformation.

South: Korea: South Korea has been investing heavily in AI research and development, and has also introduced AI education in schools and universities. South Korea has developed an AI textbook for elementary school students, and has plans to expand AI education to all levels of education by 2025. They also launched the AI Graduate School Support Project, that supports the establishment of specialised AI graduate schools in universities[2]

India: India has a large and diverse population, with many challenges in providing quality and equitable education to all. India has been exploring the potential of AI to address some of these challenges, such as improving learning outcomes, enhancing teacher capacity, and increasing access and inclusion. India has also launched several initiatives to promote AI education and skills, such as the National Education

Policy 2020, which emphasises the integration of AI and other emerging technologies in the curriculum.

China: China has been a global leader in AI development and innovation, and has also been implementing AI in education at a large scale. It has been using AI to support personalised learning, adaptive assessment, intelligent tutoring, and smart classrooms. China has also been promoting AI education and talent development, with policies such as the New Generation AI Development Plan, which aims to cultivate AI talent and foster AI literacy among the public.

Finland: Finland has been a champion of human-centric and ethical AI, and has also been advancing AI education and awareness. Finland has developed a free online course called Elements of AI, which introduces the basics of AI to anyone interested in learning about it. Finland has also been integrating AI and computational thinking into the national curriculum, and has been supporting teachers and educators to acquire AI competencies.

Japan: Japan has been pursuing the vision of Society 5.0, which is a human-centred society that balances economic advancement and social problems through the use of AI and other technologies. Japan has also been implementing AI in education, with initiatives such as the AI Education Promotion Project, which supports the development of AI education materials and programmes for schools and universities.

European Union: The European Union (EU) has a positive and proactive attitude towards AI in education, as it sees AI as a way to enhance the quality, inclusiveness, and accessibility of education in Europe. They had launched several policies and initiatives to support and govern the use of AI in education, for instance the Digital Education Action Plan or The AI Act. In addition the EU also cooperates with other countries and regions, such as the USA, on AI standards and initiatives, such as the OECD principles and the Global Partnership on AI.

USA: The USA has a mixed and evolving view of AI in education, as it sees both the opportunities and challenges that AI poses for society. According to a Pew Research Center survey, 52% of Americans are more concerned than excited about AI in daily life, while 10% are more excited than concerned. However, the USA also recognizes the potential of AI to enhance the quality, inclusiveness, and accessibility of education, and has invested in AI research, standards, and frameworks.

African Union: The African Union (AU) has a positive and proactive position on the topic of AI usage in education. The AU has developed a Digital Education Strategy and Implementation Plan that covers the period 2023-2028 and aims to accelerate the adoption of digital technologies for teaching, learning, research, assessment and administration. The strategy also seeks to strengthen digital literacy and skills for all, especially for teachers and students, and to build the capacity of AU Member states in digital infrastructure for digital education[1].

7. Conclusions and questions a resolution must answer

Artificial Intelligence is one of the most promising and disruptive technologies of the 21st century. Its application in education holds the potential to enhance quality, equity, and inclusion while fostering innovation and sustainable development. However, it also poses significant ethical, social, and pedagogical challenges that require critical reflection and appropriate regulation.

UNESCO, as a specialised agency of the United Nations for education, science, and culture, is tasked with promoting a human-centred vision of AI aligned with universal human rights values. In this regard, this organisation has developed initiatives and resources to guide policymakers, educators, researchers, and the public on the responsible and ethical use of AI in education.

Among these resources there is the Beijing Consensus on Artificial Intelligence and Education, adopted in 2019 by over 50 countries, outlining principles and recommendations to harness AI's potential for achieving Sustainable Development Goal 4 (SDG 4) related to education. Additionally, UNESCO has published a guide for policymakers on AI and education, providing a conceptual and practical framework to understand the opportunities and challenges posed by AI in the education sector.

One of the most relevant aspects of AI is its generative capacity, enabling the creation of original content from existing data such as texts, images, sounds, or videos. Generative AI holds various applications in education and research, including facilitating access to personalised and diversified instructional resources tailored to each student's needs, stimulating creativity and critical thinking, and supporting scientific and artistic production.

However, generative AI also entails significant risks, such as the generation of false or misleading content, copyright or privacy violations, and the loss of human control over machine-generated processes and outcomes. Therefore, it is essential to establish ethical criteria and legal standards to ensure the safe, transparent, and responsible use of generative AI in education and research.

With this purpose, UNESCO has developed a guide for generative AI in education and research, aiming to assist countries in implementing immediate actions, planning long-term policies, and developing human capacities to ensure a humanistic vision of these new technologies. The guide is grounded in the principles of the Beijing Consensus and provides practical examples, best practices, and recommendations for integrating generative AI into educational systems and research institutions.

UNESCO hopes that this guide will contribute to fostering an informed and participatory debate on the role of generative AI in education and research, as well as to drive initiatives promoting its ethical and inclusive use for the benefit of humanity.

In order to help to provide a fruitful debate, we consider that the following questions should be kept in mind while writing the resolution:

- What measures are in place to ensure data privacy and security with the increased use of AI in education settings?
- How does the resolution promote inclusivity and accessibility in AI-driven educational technologies?
- How does the resolution address potential biases and discrimination that may arise from the use of AI in educational systems?
- How does the resolution advocate for the training and professional development of educators to effectively integrate AI tools into their teaching practices?
- What measures should be taken to ensure that AI applications in education do not exacerbate existing educational inequalities and instead contribute to bridging the digital divide?
- How might the continued development and incorporation of AI technologies influence pedagogical methodologies in the foreseeable future?

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