Intercultural Competence in the Age of Artificial Intelligence[1]

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Abstract

Artificial intelligence (AI) and "generative" tools like ChatGPT facilitating millions of users to write text, create realistic pictures and automate mundane tasks. AI is a great technological resource and could help people to improve health care, facilitate access to information, education and training. Also democracy could be made stronger and diversity and openness might be supported (European Parliament, 2023). On the other hand, many authors (Scharre, 2021; McLean, Read & Thomson, 2023; Zoralli, 2024) refers that the increasing reliance on AI systems also poses potential risks, related e.g. with its underuse and overuse, the responsibility for damage and the threats to fundamental rights and democracy, depending on how it is designed and what data it uses.

After a comprehensive review of the major opportunities and limitations of AI in educational field, specially for multicultural and intercultural education, the presentation illustrate a project which combine a model of *intercultural competence* (IC) that is founded on extensive empirical research (Portera, 2017) with an AI program "Verse" for schools and educational context (Promethean, 2023). The dynamic and interactive model of IC (Portera 2017) has been develop using the methodology of literature review, focus groups, semi-structured interviews and participant observation with 'privileged operators' (practitioners with multicultural work experience) in the fields of education, business, law, healthcare, and cultural mediation. Considering also the input from the experts consulted trough a Delphi study and the practical application in a master degree program, the results enable the development of a model that transcend the Eurocentric and North American conceptualization of IC, by considering also competences rooted in Eastern traditions, including the philosophies of *Chakra* and *Tao*. The Italian program of AI, called "Verse", and applied in the educational context and schools (Promethean, 2023), uses the dynamics of gaming, for helping teachers in the management of the disciplinary teaching unit with a number of useful tools, making educational content enjoyable, engaging and captivating. Humanities subjects are integrated into the traditional curriculum, favoring students' flexibility and integration processes. The project, carried out by the Centre for Intercultural Studies in Verona, poses particular attention to the *Civic Education*, which is transformed into an engaging and interactive experience (Students not only learn the principles of democracy and civil rights, but also become active citizens in a virtual world which reflects the diversity and inclusivity of real society). Furthermore, students can participate in virtual elections, exploring democratic processes in different countries and understanding the importance

[1] Presentation on the Preconference -May 29th, 2024 at Seoul National University, Seoul, Korea.

of *Active Participation* in society (organize awareness campaigns, create online petitions, and work together to bring about positive change in their virtual community).**Introduction**

Artificial intelligence applications, one of the most significant advancements in digital technology, has rapidly developed in recent times in a way that has increased the interaction of humans with their surrounding environment (Newquist, 1994). Artificial intelligence (AI) and "generative" tools like ChatGPT facilitating millions of users to write text, create realistic pictures and automate mundane tasks. AI is a great technological resource and could help people to improve health care, safer cars and other transport systems, tailored, cheaper and longer-lasting products and services. It facilitate access to information, education and training. Also The need for distance learning became more important (specially during of the Covid-19 pandemic). AI can also make workplace safer as robots can be used for dangerous parts of jobs, and open new job positions as AI-driven industries grow and change, democracy could be made stronger and by using data-based scrutiny, preventing disinformation and cyber attacks and ensuring access to quality information. Also diversity and openness might be supportedfor example by mitigating the possibility of prejudice in hiring decisions and using analytical data instead (European Parliament, 2023)[2]. On the other hand, many authors (Scharre, 2021; McLean, Read & Thomson, 2023; Zoralli, 2024) refers that the increasing reliance on AI systems also poses potential risks, related e.g. with its underuse and overuse, the responsibility for damage and the threats to fundamental rights and democracy, depending on how it is designed and what data it uses.

At 15 November 2019 the UNESCO launched a *Virtual conference on Artificial Intelligence in education and training*[3] with an online community with more than 6500 members. The conference tried to gather knowledge, insights, experiences and practices from an international community on the opportunities and challenges of including AI in education and training. Most of attention has been placed on the impact of AI on innovations in various sectors, and its implications for the transformation of the workforce and the labour market. Among the professions that will most likely be affected by labour market transformations brought about by AI are also technical and vocational education. While some middle-skills jobs, whose routine-oriented work, repetitive tasks and predictable environment can be easily replaced by machines, will be completely automated, many other, also in the field of education and training have to incorporate some degree of automation and AI. Many of the professions most likely will be affected by labour market transformations brought about by AI are integrally linked with technical and vocational education and training (TVET). These changes mean that also schools and educational institutions must offer a changing set of competences (above all digital and transversal skills) – to teachers, principals and students in order to ensure continued employability and work efficiency. «An education system which is responsive to labour market demands will incorporate AI both in its own systems and in the education and training provided to students». (p.3) Today, a large part of Sustainable Development Goal 4 on Quality Education (Education 20-30) has to consider an education system's responsiveness to labour market demands in order to produce citizens who are socially

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[2] European Parliament, 2023 Artificial intelligence: threats and opportunities. European Parliament Directorate General for Communication, Bruxelles.

[3] UNESCO *Virtual conference on Artificial Intelligence in education and training*, UNESCO, Paris 2019.

and economically active within their societies. AI could maximise the own systems and processes, including teaching and learning, and to ensure students are adequately prepared for the current labour market. This was also stressed in the *Beijing Consensus on Artificial Intelligence and Education*, adopted at the International Conference on Artificial Intelligence and Education held in Beijing, China in 2019. In the field of education, AI offers opportunities to improve governance, delivery and alignment to other sectors. Many educational institutions are already leveraging AI in various ways to meet their objectives.
As results of the conference, 1. While the TVET sector shows interest in AI, this has not yet translated into institutional practices on a large scale; 2. The needs of multiple stakeholders must be considered in order to build truly responsive learning opportunities; 3 Changes in practice are needed to prepare students not only for the current labour markets but also for future disruptions; 4 TVET providers should seek to engage as drivers of AI innovation as well as suppliers of talent; 5

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Transhumanism advocates for the utilization of new technologies to improve human capabilities (Porter, 2017). Proponents contend that genetic engineering, AI, and biotechnology have the potential to increase human intelligence, physique, and emotion (Tirosh-Samuelson, 2012). This worldview positions technology as a means to enhance humanity as a whole, extend life, alleviate sorrow, and enable new human achievements. Nevertheless, transhumanism has detractors who are concerned about the ethics of human enhancement. Critics argue that a division between transhumanism's "enhanced" and "unenhanced" people would further divide society. Concerns include maintaining human authenticity and defining clear human-machine boundaries (Sharon, 2013). Critics fear that technologically improved physical and cognitive enhancements would erode humanity, identity, and the value of natural human experiences (Agar, 2013). Accordingly, transhumanism predicts a future in which technology may transcend human limitations and increase human capabilities. Critics are concerned about the ethical consequences of blurring the barriers between people and technology, while supporters believe it will improve the human condition and address existential concerns (Bostrom & Yudkowsky, 2018). The aims of transhumanism and its potential implications for society, ethics, and human nature warrant careful consideration.

A **systematic Systematic Review Research** on ChatGPT (an artificial intelligence program released in November 2022)[5] shows how many studies have expressed excitement or concern about its introduction into academia and education. The study reviews the literature in order to reveal potential implications, possibilities, and concerns about the use of ChatGPT in education as a whole.
Regard the methodology 40 articles were analyzed to gather information regard study's research questions. The data of the study were collected and then subjected to a systematic review.

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[4] Nayır, F., Sarı, T., & Bozkurt, A. (2024). Reimagining education: bridging artificial intelligence, transhumanism, and critical pedagogy. *Journal of Educational Technology & Online Learning*, 7(1), 102-115.

[5] *İpek, Z.H., Gözüm, A.İ.C., Papadakis, S., & Kallogiannakis, M. (2023). Educational Applications of the ChatGPT AI System: A Systematic Review Research. Educational Process: International Journal, 12(3): 26-55.*
https://dx.doi.org/10.22521/edupij.2023.123.2

As Results the positive categories of ChatGPT's integration into education were determined. Similarly, the negative category highlighted the potential negative impact of artificial intelligence on educational processes.

4.1. Integration of ChatGPT into Education

Many articles discussed the integration of ChatGPT into education and its use as a supportive tool. ChatGPT has the potential to contribute to education within skills areas such as literature search, literature generation, translation, creating deep and complex answers, analyzing students' needs, personalized learning experience, grading, tracking student data, copy prevention, education system updates, data analysis, cyberbullying prevention, helping people study, and catalogue sources.

Abstracting: ability to summarize long books according to predetermined criteria and within a very short space of time.

Literature review: ChatGPT could quickly scan over 650 GB of written sources and quickly present the results by turning it into meaningful literature.

Generating literature: ChatGPT has extensive literature-generating capabilities within a short time span. Among these skills are complex texts that require deep and critical-thinking skills. The fluency and accuracy in these texts has been a cause of some concern, especially amongst academics, and the question of "what can be done about these works in the future" has emerged.

Translation and paraphrasing: ChatGPT's translation skills and capacity to paraphrase translated text are surprisingly high. There have been statements made that this skill is at the level of Google translate and other translation engines. It has also been reported that ChatGPT has significant translation skills, but can encounter some technical problems in non-European languages, which are deemed "foreign languages."

Generating complex and deep answers for exams: ChatGPT's ability to generate deep and meaningful answers to questions has led scientists to research the program's potential. As a result, studies have been conducted in which ChatGPT was subjected to university-level exams in fields such as law, medicine, language, and pharmacy.

Identifying students' needs earlier: ChatGPT and similar applications have a tremendous scanning capacity, and the ability of this skill to access a broader range of resources and data has positively affected users' scanning abilities. Due to these skills, the ChatGPT program can lead students to access additional support and resources by increasing their screening ability.

Personalized learning experience: Presenting a personalized learning skill to students based on the analysis of students' interests is also one of the skills that ChatGPT and similar AI programs can offer.

Grading and assessment: One area of research on ChatGPT has been the program's capacity to grade and evaluate student exams.

Data analysis: This can result in individuals more easily performing behavioral analysis, text analysis, and the analysis of extensive textual data, and performing these tasks with high speed and precision so as to facilitate extensive scientific data processing in many fields.

Prevention of cybercrime and cyberbullying: ChatGPT, while can process large volume data and texts in a short timespan, can help prevent cybercrime and prevent content that may have a harmful effect on children, thanks to its fast data processing ability.

Cataloguing: ChatGPT can also be used for the classification and cataloguing of significant texts, books, and data blocks. .

Directing: ChatGPT's can refer patients to specialists based on their reported symptoms in areas with high patient density where urgent professional guidance is needed.

Material design and material generation: ChatGPT has the potential as a helpful tool during the various stages of material development, design, and creation due to its different features.

Potential **disadvantages** in terms of education.
Cheating: ChatGPT carries the risk of being used by students for the purposes of cheating in online assignments, exams, or where students submit texts that are not created from their own effort and are passed off as if their own, just as seen in previous versions of the program.
Creating bias: ChatGPT and similar artificial intelligence models learn through highvolume data feeds. Introducing serious data to these artificial intelligence models creates information that can be used in the future. In this context, knowledge about the information that artificial intelligence models use, and especially from which data sources, becomes essential.
Generating incorrect answers: Currently, ChatGPT has programming up to 2021 and therefore does not have a dependency upon real-time information. In this context, the program can unwittingly provide incorrect answers to events after 2021, or where few resources exist.
Legal issues: Discussions about ChatGPT have shown that the program can be used for both positive and negative outcomes. For this reason, some legal regulations on evaluating legal texts created by the program have been mentioned.
Ethical issues: Since the ChatGPT program does not have ethical thinking awareness, it is seen that the program has an ethical thinking infrastructure based on the ethical judgments of those who were its programmers.

Discussion
Literature review and abstracting, considered the primary features of ChatGPT, will likely benefit teachers and students in many different ways, and especially in the context of educational lessons and course content. Since ChatGPT can be used to summarize the available resources that are to be examined in lessons, it can create an environment for different ideas to be presented and discussed more rapidly in the educational context. ChatGPT can summarize texts containing many pages, and do so both quickly and accurately. This provides individuals with labor and time savings, as well as ease of access to vast amounts of information. Nevertheless, ChatGPT summaries need to pay attention to details and reflections, which may lead to important information being missed or misinterpreted by individuals (Aljanabi et al., 2023; Aydın & Karaarslan, 2022; Lund & Agbaji, 2023; Lund & Ting, 2023; Pavlik, 2023; Rudolph et al., 2023).

Artificial intelligence can be utilized as an educational tool in cases where the discussions aimed to be had in the classroom with students are barren and cannot otherwise be developed. ChatGPT can provide detailed answers to students preparing for tests and exams, providing them with guidance on exam scope and the necessary course content to be learned (Choi et al., 2023; Duong & Solomon, 2023; Huh, 2023; Nisar & Aslam, 2023; Qadir, 2022; Rahman & Watanobe, 2023; Sok & Heng, 2023). However, students utilizing ChatGPT in place of searching for their own answers to every question can result in addiction and can negatively affect the development of human-specific critical-thinking and problem-solving skills (Larochelle et al., 1998; Steffe & Gale, 1995).

ChatGPT can be essential for accessing and translating resources in different languages. ChatGPT can therefore eliminate language barriers and make information accessible in languages that individuals would otherwise not be able to access. However, whilst AI

translated texts may be factually correct, they may lack the ability to capture the metaphors and nuances that a human being would more naturally make sense of; and this situation poses a risk to potentially inaccurate information being used in academic research or in other educational contexts (Bishop, 2023; Cotton et al., 2023; Gordijn & Have, 2023; Jiao et al., 2023; Kutela et al., 2023; Rudolph et al., 2023).

Conclusion – The reviewed research evaluated and discussed the impact of AI on education and training processes. In conclusion, this review revealed the critical applications of ChatGPT for educational settings and the potential negative impact of its application. The findings established how ChatGPT and its derivatives would create a new paradigm in education as a whole.
The final result of the current research is the acknowledgement that the integration of artificial intelligence into the educational environment has already begun. Performing highlevel cognitive skills such as the production, analysis, and synthesis of information through technological means has created a new paradigm, and education should take advantage of its positive aspects by utilizing this emerging paradigm. However, educators are expected to think and implement creative measures in order to avoid the negative aspects of AI.

2. Intercultural competences for facing new challenging

the presentation illustrate a project which combine a model of *intercultural competence* (IC) that is founded on extensive empirical research (Portera, 2017) with an AI program "Verse" for schools and educational context (Promethean, 2023). The dynamic and interactive model of IC (Portera 2017) has been develop using the methodology of literature review, focus groups, semi-structured interviews and participant observation with 'privileged operators' (practitioners with multicultural work experience) in the fields of education, business, law, healthcare, and cultural mediation. Considering also the input from the experts consulted trough a Delphi study and the practical application in a master degree program, the results enable the development of a model that transcend the Eurocentric and North American conceptualization of IC, by considering also competences rooted in Eastern traditions, including the philosophies of *Chakra* and *Tao*.

3. **Intercultural competences** and Artificial Intelligence (AI)

The Italian program of AI, called "Verse", and applied in the educational context and schools (Promethean, 2023), uses the dynamics of gaming, for helping teachers in the management of the disciplinary teaching unit with a number of useful tools, making educational content enjoyable, engaging and captivating. Humanities subjects are integrated into the traditional curriculum, favoring students' flexibility and integration processes. The project, carried out by the Centre for Intercultural Studies in Verona, poses particular attention to the *Civic Education*, which is transformed into an engaging and interactive experience (Students not only learn the principles of democracy and civil rights, but also become active citizens in a virtual world which reflects the diversity and inclusivity of real society). Furthermore, students can participate in virtual elections,

exploring democratic processes in different countries and understanding the importance of *Active Participation* in society (organize awareness campaigns, create online petitions, and work together to bring about positive change in their virtual community).comprehensive review of the major opportunities and limitations of AI in educational field, specially for multicultural and intercultural education,

Final reflections

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Critical pedagogy is a paradigm that challenges established educational techniques with the goal of empowering students to critically assess and modify their social reality (Freire, 1970). Critical pedagogy prioritizes the empowerment of learners to engage in critical analysis of their social and political environments, facilitating the development of a profound comprehension of the world. The emergence of generative AI models presents both prospects and difficulties in education, enabling customized, efficient, and flexible learning encounters. Nevertheless, the ethical ramifications and inquiries regarding autonomy in education are becoming more relevant.

GPT-3 responded to the idea of using education as a political tool in the context of educare and educere and emphasized that the educere part was missing, which reflects a perspective in line with the Incheon Declaration and SDG4 - Education 2030 Framework for Action: Towards 2030: a new vision for education vision 9 (UNESCO, 2016). In the context of critical pedagogy, educare and educere approaches can be considered as representing two different paradigms. Craft (1984) asserts education is derived from educare and educere in Latin. In Mialaret (2017), educare means caring and supporting, while educere means erasing, leading, and raising. Education in the meaning of educare involves completing tasks to teach a student a skill. Viniegra-Velázquez (2021) argued that educare turns the school into a factory where desirable goods (human capital) are produced for an exploitative and exclusionary market by analyzing passive and active education. In comparison, educere is distinct. Billington (1993) states that education's main goal is not to generate professionals, give certificates, or teach people to serve society, government, or the economy. Based on the emergence, dissemination, and development of students' qualities and skills, education-based education provides students personal independence to be creative, autonomous, and independent or to live more compassionately.

Consequently, several methods exist for bringing critical pedagogy into AI-enhanced classrooms. To begin with, AI can serve as a resource for teachers to encourage students to think critically and reflect on their learning. AI has a wide range of potential educational applications, including fostering communication and collaboration among students and offering insightful, thought-provoking feedback. Secondly, teachers can play their part in mitigating the challenges of AI by establishing codes of conduct and ethical standards that prioritize issues of fairness and inclusion. Finally, through professional development courses and collaboration with AI experts, teachers can be trained to successfully incorporate critical pedagogy into AI-supported teaching and improve their AI literacy, and it is recommended not to over-rely on AI,