

Education never stands still—it moves, adapts, and transform in response to new realities, while reshaping society in turn. This collection explores some forces defining learning today: digital tools, intercultural dialogue, artistic expression, and the call for ecological responsibility. At its core, education remains a space for negotiation and reinvention.

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PROCEEDINGS

02

Cultures, Practices, and Change

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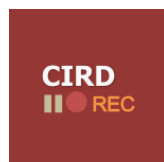
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Vol. 2

**Cultures,
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ARTIFICIAL INTELLIGENCE AND INCLUSIVE EDUCATION. A CRITICAL LOOK FROM A PEDAGOGICAL PERSPECTIVE

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Experts, researchers, and advocates in the field have expressed concerns about artificial intelligence (AI) potentially making education less inclusive. In this perspective, AI systems can inadvertently perpetuate or exacerbate discrimination and biases in the data on which they are trained. On the other hand, many sources emphasize that AI has the potential to play a positive role in promoting diversity and inclusivity in education when implemented with a deliberate focus. Here we ask: How do national educational authorities guide schools, teachers, and students on the possibilities and challenges that are caused by AI in inclusive education? What are the main issues addressed? Our contribution is informed by analysing research papers, international and selected countries' public guidelines, strategies, and overall AI and inclusive education recommendations.

artificial intelligence (AI); inclusive education; AI international guidelines; Italy; Norway.

INTRODUCTION

Artificial Intelligence (AI) has transformed the educational landscape in many ways, offering new opportunities for adapting educational experiences and catering to diverse learner profiles, from adaptive learning platforms tailoring content to individual student needs to intelligent tutoring systems providing real-time feedback (Holmes et al. 2022; Lim et al., 2023; Niemi et al., 2023). Moreover, the potential of AI extends beyond the classroom, permeating administrative functions such as student enrolment, assessment grading, and educational resource allocation, thereby optimizing institutional efficiency and resource utilization (Holmes & Tuomi, 2022). Furthermore, when the generative AI was introduced in fall 2022 by the Open AI and ChatGPT, education faced even more unforeseen challenges, and its impact on teaching and learning remains unknown.

The integration of AI in education necessitates a paradigm shift in pedagogical approaches and teacher training, raising questions pertaining to professional autonomy, accountability, and the redefinition of educator roles within technologically mediated learning environments. While these types of multifaceted challenges

related to pedagogical issues emerge, also various ethical and juridical considerations caused by various forms of AI are observed, and they call for careful policy deliberation. For example, concerns regarding data privacy, algorithmic bias, and digital inequality underscore the imperative for robust regulatory frameworks and ethical guidelines to govern the development, deployment, and usage of AI in educational settings.

1. THE INTERNATIONAL FRAMEWORK

AI constitutes a key area of interest and contention within policymaking, both national and across the nations. Its development has been pursued and debated, and guidelines have been outlined by international policymaking bodies such as the OECD, UNESCO and the EU. Nations, on their side, have adjusted these guidelines in coherence with local laws and regulations, and most likely with their existing policies, laws and regulations on digitalisation. However, as countries around the world hold different profiles and approaches towards digitalisation, this impacts the implementation and regulation of AI in education. While research suggests that digital technologies and AI may support inclusive education (Selwyn, 2022), less is known on how national educational authorities approach these possibilities in their overall strategies, guidelines and regulations. Thus, in our paper we will take a closer look at this perspective.

1.1 The European Union initiative

The *Digital Education Action Plan (2021-2027)* is the EU policy initiative to support the sustainable and effective adaptation of the education and training systems for the digital age (EU, 2020). It presents opportunities for improved quality and quantity of teaching concerning digital technologies, support for the digitalisation of teaching methods and pedagogies and the provision of infrastructure required for inclusive and resilient remote learning. The Plan has two strategic priorities: to foster high-performing digital education ecosystems and to enhance digital skills and competences for the digital age. In line with these priorities, in 2022 the EU published an important document entitled *Ethical Guidelines on the use of AI and data in teaching and learning for educators* “to help educators understand the potential that the applications of AI and data usage can have in education and to raise awareness of the possible risks so that they are able to engage positively, critically and ethically with AI systems and exploit their full potential”. By way of introduction, the document underlines that “evidence-based research on the impact of AI in education is still limited so it is important to maintain a critical and supervised attitude”. It then begins by analysing some prejudices about AI and assigning the responsibility to people and to teachers/educators, to enhance the potential and control the risks. Several examples of virtuous use of AI in the educational field are proposed, to support teaching, learning and assessment practices. The text outlines the key considerations and requirements for trustworthy AI: human agency and oversight, transparency, diversity, non-discrimination and fairness, societal and environmental wellbeing, privacy and data governance, technical robustness and safety,

accountability. Finally, there are guiding questions for teachers based on the key requirements for trustworthy AI systems. Some of them are focused more on practical implementation issues and others on ethical considerations. Based on the focus of this paper, it is interesting to report some of the key questions relating to the requirement of diversity, non-discrimination, and fairness:

Is the system accessible by everyone in the same way without any barriers? Does the system provide appropriate interaction modes for learners with disabilities or special education needs? [...] Are there procedures in place to ensure that AI use will not lead to discrimination or unfair behaviour for all users? [...] Are procedures in place to detect and deal with bias or perceived inequalities that may arise? (EU, 2022).

On March 13, 2024, the European Parliament formally adopted the EU AI Act, the world's first law governing AI, providing rules on data quality, transparency, human oversight and accountability. The Act establishes obligations for providers and users depending on the level of risk. Unacceptable risk AI systems are a threat to people and will be banned. They include cognitive behavioural manipulation of people or specific vulnerable groups, social scoring, biometric identification and categorisation of people, real-time and remote biometric identification systems, such as facial recognition. AI systems that negatively affect safety or fundamental rights will be considered high risk and will be assessed before being put on the market and throughout their lifecycle. People will have the right to file complaints about AI systems to designated national authorities.

2. ITALY

The Italian government has been taking initiatives to increase digital skills, to address e-inclusion, to reduce the digital divide amongst the population and ensure that most have at least basic digital skills.

In 2020 the Italian National AI Strategy was launched by the Ministry of Economic Development, taking a comprehensive approach, including on aspects related to ethics, trust and education policies. Its objective is to outline a coherent plan to allow Italy to maximize the benefits and minimize the costs resulting from “the most important technology paradigm shift of our times”.

The strategy is based on the principles of anthropocentrism, reliability and sustainability. AI must be at the service of people, guaranteeing human supervision, preventing the risks of worsening of the social and territorial imbalances potentially resulting from its unconscious or inappropriate use. AI must be designed and built in a reliable and transparent way. AI must generate opportunities of growth and well-being for all individuals, in line with the principles contained in article 3 of the Italian Constitution and the United Nations (UN) Sustainable Development Goals. It must be itself a sustainable technology and provide a tool for environmental, social and economic sustainability.

Section 3 of the Strategy deals with citizen awareness, provides for information and

awareness-raising actions and states that “there will be particular attention to the possible uses of AI in promoting access for disabled people and the most vulnerable subjects to digital services” and to the development of enabling technologies to improve the ability of these categories to use AI based digital technologies.

On April 23th, 2024, Italy’s cabinet approved the Bill 1066 aimed at laying down ground rules for the use of AI, to ensure that it is applied “with respect for the autonomy and decision-making power” of human beings (Senato della Repubblica Italiana, 2024). The bill aims to promote “a correct, transparent and responsible use, in an anthropocentric dimension, of artificial intelligence, aimed at seizing its opportunities” (art. 1). The anthropocentric approach to artificial intelligence emerges from the art. 3 which provides that the use of this new technology takes place in compliance with the fundamental rights provided by the Constitution and European law and with the principles of transparency and proportionality of the processes, reliability and correctness of the data used for the development of artificial intelligence systems.

The development of AI systems is entrusted to a strategy prepared by Invitalia, a specific structure of the Government, in agreement with the national authorities responsible for technological innovation. The choice denotes the government’s intention to play a crucial role in the process of developing AI systems.

There aren’t specific references to schools and inclusive education in the National Strategy. This appears to be a shortcoming in the Italian emerging regulatory framework. However, the principles stated and reiterated in the cited sources denote attention devoted to vulnerable persons, equity matters and, more generally, to the ethical aspects in the use of AI in all fields.

3. NORWAY

In Norway, the government launched a national strategy on AI in 2021, including areas relevant for the public and private sector. While most schools and higher education institutions including teacher education are public and free to all in Norway, the national strategy on AI did not address issues that targeted the education field directly. However, a few years later, in late Spring 2023, a national strategy for digital competence and digital infrastructure in primary and secondary education was launched (Kunnskapsdepartementet, 2023). The strategy was a joint effort among the Ministry of Education and Research and The Norwegian Association of Local and Regional Authorities (KS), involving various stakeholders such as researchers. Moreover, there was a delay on its release, mainly caused by the introduction of Generative AI during Fall 2022. The strategy had thus to find ways to incorporate updated guidelines on how to approach AI, and especially generative AI in education. Consequently, various issues on AI were addressed, such as ethical and juridical concerns regarding the use of AI in education, along with developing AI literacy for students, as referred to in the national curricula. A national agency for education, the Directorate for Education and Training has developed some guidelines on how schools and school owners may pursue the guidelines outlined in the national

strategy, and on their website, these guidelines are updated on a regular basis. Furthermore, in 2017, the Directorate for Education and Training initiated a framework for professional digital competence for teachers (Kelentric et al., 2017), which guides teachers and teacher trainers in digital competence. In Spring 2024, the framework was updated including perspectives on AI, including AI literacy (Directorate for Education and Training, 2024).

Norway has sent its position on the regulation to the European Commission. The position was prepared following a process in which the ministry obtained input from several stakeholders. Here, Norway supports the risk-based approach proposed by the Commission, in which most current AI applications are considered to fall into categories that do not place undue demands on business. Furthermore, the Norwegian government outlines some remarks regarding the proposition's formula on prohibited AI practices. The Article 5 – 1 suggests prohibiting AI systems for evaluation or classification of the worthiness of natural persons where such use of AI-systems may lead to unjustified or disproportionate treatment of individuals. Furthermore, it should be carefully considered whether the terms “unjustified or disproportionate” will provide sufficient safeguards against unwanted use of this type of AI systems. The Norwegian government is concerned that this may allow for exclusion of individuals from the use of certain fundamental services that should be available to all, for instance health and care services (Norwegian Government, 2024, p. 2).

CONCLUSIONS

The development of AI constitutes a key area of interest and contention within policymaking, both in and across the nations. In this paper, by doing a document analysis of public documents such as international recommendations and national strategies, we elaborated on how two countries, Italy and Norway, have approached AI and inclusive education. The two countries were chosen due to their different profiles as regards approaches towards digitalisation, education and affiliation to the European Union. For example, Norway was ranked as number 14, and Italy as number 24 in the World Digital Competitiveness Ranking 2023 (IMD, 2023).

Although they started from vastly different positions, both countries have adopted similar approaches to the challenges posed by AI in education. They've aligned themselves with the cautious, risk-aware stance of European regulations, while still promoting technological and commercial advancements. Both nations prioritize ethics and responsibility in this delicate phase of digital transformation, where the societal and educational impacts of new technologies are often unpredictable. In both contexts, discussions surrounding AI, especially in education, emphasize inclusivity and address the unique needs of vulnerable populations

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