

# Chapter 4

## UNESCO's AI Competency Framework: Challenges and Opportunities in Educational Settings

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### ABSTRACT

*The fast incorporation of artificial intelligence (AI) into many fields demand a thorough strategy toward AI literacy in education. UNESCO's AI competence framework offers a solid basis for arming teachers and students with the knowledge, tools, and ethical awareness they need to negotiate an AI-driven future. The main opportunities and challenges in using UNESCO's AI competence framework in many educational environments are investigated in this work. Significant obstacles are ethical issues, contextual adaptability, effective assessment and evaluation, and the necessity of professional growth. On the other hand, the framework offers great chances to improve instructional strategies, encourage multidisciplinary cooperation, and assist individualized learning environments. This study offers ideas on improving educational policies and procedures to guarantee the efficient integration of AI literacy by looking at current studies. The results add to the continuous conversation around AI education and guide stakeholders in negotiating the complexity of using AI competence frameworks. In conclusion, this research emphasizes the need to tackle opportunities and issues to equip teachers and students for the future, guaranteeing*

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*inclusive, ethical, and influential AI literacy.*

## **INTRODUCTION**

An urgent need has arisen because of the fast growth and integration of artificial intelligence (AI) technology across all sectors of society. It has resulted in the requirement to equip students and teachers with the required skills to navigate a world driven by AI. Not only is it essential for students to acquire technical abilities, but it is also essential for them to acquire a wider range of competences linked to the ethical, social, and practical consequences of AI (Tenório & Romeike, 2023). This is because AI systems are becoming increasingly widespread in education, healthcare, business, and their everyday lives. According to Chan et al. (Chan et al., 2024), the United Nations Educational, Scientific, and Cultural Organization (UNESCO) has been working to build frameworks and criteria for AI competencies in education. The organization's goal is to give a complete approach to AI literacy that is aligned with larger educational aims and sustainable development objectives.

A major endeavor to standardize and advance AI education worldwide, the UNESCO framework for AI competences reflects still underexplored, though, is how well such frameworks apply in various educational environments. Evaluating and improving these competence frameworks is desperately needed as AI technologies keep developing fast to guarantee they stay relevant and efficient in educating students for the possibilities and difficulties AI presents (Sun et al., 2023).

The UNESCO's AI competence framework covers ethical issues, contextual adaptability, assessment and evaluation, professional growth, and cross-cultural issues among numerous important angles. By concentrating on these aspects, the framework seeks to guarantee that AI literacy is about encouraging responsible and ethical use of AI in education as well as about technological competency. This all-encompassing strategy fits with UNESCO's larger goal to advance inclusive and fair quality education for everyone (UNESCO, 2024).

Ensuring that students have the required skills to grasp, apply, and critically assess AI technology is of great relevance as AI keeps changing many facets of society (Černý, 2024). The arrival of AI in the field of education brings complicated dynamics that need instructors not only to be competent in conventional teaching approaches but also in incorporating AI technologies into their curricula (Wood & Moss, 2024). By means of data analytics, this connection promises to improve individualized learning, streamline administrative chores, and provide a closer knowledge of student involvement and performance. Teachers, who have to adjust to remain successful in their responsibilities, face major difficulties, nonetheless,

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