


Chapter 9

Developing Teachers’ AI Literacy Through Professional Development

Jared M. Valenzuela

 <https://orcid.org/0009-0007-6509-0755>

University of Nottingham, Ningbo, China

ABSTRACT

In response to the burgeoning development of artificial intelligence (AI) in higher education and its revolutionary impact on the teaching and learning process, the call for more AI-literate informed educators is gradually increasing at the forefront. Using Aristotle's division of knowledge—Episteme, Techne, and Phronesis—as the analytic lens, promoting AI literacy in professional development presents one key option for enhancing teachers' professional knowledge. Grounded in the conceptual models of Bloom's taxonomy, the TPACK framework, affective and socio-ethical dimensions, AI literacy arms professionals with AI knowledge and equips them to integrate relevant educational AI technologies in their teaching context competitively. AI literacy provides an opportunity for teachers to gain a competitive advantage in the workplace, and to achieve a more equitable position in teaching efficacy. In addition, this chapter explains that an evaluation plan for AI literacy professional development ensures that the training development is effective, relevant, and impactful.

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INTRODUCTION

The United Nations Educational, Scientific, and Cultural Organization or UNESCO (2024) defines literacy as a means of engagement with society in a fast-paced digital world. This definition, however, departs from the more classic and traditional interpretation of literacy, as the “ability to read and write” from the Latin root word, *littera*. The divergent meaning underscores the utility and significance of technology as well as highlights technology's consistent evolution and expansion of information and learning in modern society, placing social concepts as a vital aspect. However, despite UNESCO's thrust in promoting worldwide literacy, the disparity and inequality of literacy are palpable worldwide, and its consequences are evident; in particular, illiteracy costs the UK economy around 80 billion pounds (World Literacy Foundation, 2018) and 1.19 trillion USD is lost in the global economy because one out of five people is illiterate worldwide (Cree, Kay and Steward, 2023). This widening illiteracy gap could be attributed to some educational institutions lacking technological resources and pedagogical and technological knowledge to equip teachers in the field, further pushing the boundaries of the digital literacy divide, now known as the AI divide. Such ramifications may emphasize that actions in upholding literacy may be akin to just tinkering at the edge of the core issues. In addition, the entrance of artificial intelligence in the field has shifted the tide, resulting in pivoting the focus from concerns of mere technological use in teaching to debates on AI adaptation in curriculum and ethics. This move further exacerbates the complexity of literacy as a domain and, by extension, affects the notion of AI literacy.

Given how literacy has quickly evolved to discussions on AI, some institutions urge promoting AI literacy awareness. The Council of Europe (2021) encourages member states to promote and invest in robust AI literacy awareness in education through training and educational efforts, suggesting that educational efforts should not solely rely on initiatives that educate the public about mere AI functionality and operations but should offer training on potential impacts and consequences of AI on human rights. The National Artificial Intelligence Advisory Committee or NAIAC (2023) recommends a national AI literacy campaign that invests in formal educational frameworks to advance AI literacy, indicating stronger community ties of formal and informal educational institutions through public access to government resources and capitalizing the already established framework for AI integration through professional licensure examinations and continuing education requirements in upskilling the current workforce and ensure individuals possess the necessary skills for the future. Even Gonzales (2024), UNESCO editor, highlights the paramount importance of targeted AI literacy awareness in bridging the AI literacy divide, particularly among marginalized groups who are often considered to show apprehension in AI use, such as women, individuals with disabilities, sexual and

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