Chapter 9
Artificial Intelligence in Open Educational Resources (OER) for Doctoral Education

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ABSTRACT

This chapter examines the integration of Artificial Intelligence (AI) into Open Educational Resources (OER) for doctoral education, focusing on the Ukrainian context. It explores how AI can enhance the accessibility, adaptability, and pedagogical effectiveness of OER, especially during crises. Drawing on empirical research, it highlights both the potential and limitations of AI in supporting doctoral training. Key themes include the uneven awareness and use of OER among students and educators, the role of AI in content personalization and translation, and the ethical challenges surrounding bias, trust, and academic integrity. The chapter introduces the concept of an AI-driven OER ecosystem, where intelligent tools automate content curation, semantic tagging, and multilingual access, while human actors maintain oversight and contextual relevance. The chapter frames AI as both a tool for human augmentation and a force requiring vigilant oversight, advocating for a balanced approach that pairs technological innovation with transparent governance and critical data literacy.

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INTRODUCTION

Artificial Intelligence (AI) is precipitating a fundamental reconfiguration of higher education, rendering many traditional pedagogical models increasingly antiquated. To harness AI's transformative potential responsibly, addressing the pedagogical, ethical, and technical challenges accompanying its adoption is imperative. For instance, students may delegate assignments wholesale to AI systems, compromising the integrity of learning outcomes. Accordingly, both educators and learners must cultivate competencies in effective human-AI collaboration.

Existing AI-generated text detectors exhibit inconsistent reliability and frequently yield false positives, inadvertently penalizing students whose work is original. Consequently, proactive instructional design – integrating AI literacy modules and scaffolded assignments – offers a more robust defense against academic dishonesty than retrospective detection alone. Empirical findings on AI-tutored cohorts are equivocal: although such groups may outperform peers in lecture-based settings in the short term, their performance sometimes declines when AI support is withdrawn. Therefore, continuous, systematic research into these phenomena is essential for developing sustainable integration strategies. Conventional grading scales do not adequately account for AI-mediated contributions. Thus, there is a need for nuanced assessment rubrics. A multidimensional framework – delineating levels of AI involvement from "no AI use" through "AI for ideation and structuring" to "AI-only output with human oversight" – can provide clarity and flexibility for instructors and students alike. As AI assumes an increasing share of higher-order cognitive functions (e.g., analysis and creation), cognitive taxonomies should be reconceptualized to reflect collaborative human-machine problem-solving rather than treating AI as a surrogate for student effort.

The exigencies of the COVID-19 pandemic underscored the pivotal role of digital education in accelerating the digital transformation of universities worldwide. In the context of the Russian war against Ukraine, digital and hybrid instructional models have become indispensable for Ukrainian learners, both domestically and in the diaspora. Disciplines vary in their patterns of human-AI interaction; pedagogical frameworks that distinguish between direct problem-solving, dialogic collaboration, content generation, and prompt engineering can inform discipline-specific course design. In particular, digital literacy concerning Open Educational Resources (OER) has emerged as a critical priority in Ukraine, where many institutions operate under disrupted conditions, including intermittent power supply and security threats.

This chapter considers the intersection of AI utilization with the creation of OER in the context of doctoral education, focusing on why an OER is preferable to unregulated AI use for surfing the net. The advancement of AI in the development and administration of OER can profoundly improve the educational experience of