

## **Innovation In Language Learning and Teaching**

### **Artificial Intelligence in Higher Education: The ChatGPT Effect**

<b>Submission ID</b>	255999700
<b>Article Type</b>	Book Review
<b>Keywords</b>	artificial intelligence, higher education, ChatGPT , Cecilia Ka Yuk Chan, Tom Colloton, Artificial Intelligence in Higher Education: The ChatGPT Effect

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**Artificial Intelligence in Higher Education: The ChatGPT Effect**, by Cecilia Ka Yuk Chan and Tom Colloton, Abingdon & New York, Routledge, 2024, X+260 pp. £34.99 (paperback). ISBN 978-1-003-45902-6 (e-book).

The rapid rise of artificial intelligence (AI) technologies, particularly generative AI tools such as ChatGPT, has sparked widespread interest in their potential to transform education. From enhancing teaching practices to personalizing learning experiences, these innovations offer promising applications. However, the integration of AI in education also raises significant ethical, pedagogical, and policy concerns. In *Artificial Intelligence in Higher Education: The ChatGPT Effect*, Cecilia Ka Yuk Chan and Tom Colloton present a comprehensive exploration of these opportunities and challenges, with practical insights for educators, administrators, and policymakers.

While the book's primary focus is on higher education as a whole, its relevance to language teaching and learning cannot be overlooked. Generative AI tools such as ChatGPT offer unique benefits for language education, from assisting learners with real-time grammar feedback to supporting teachers in crafting personalized assessments. The book's emphasis on AI literacy and ethical frameworks further aligns with the growing need for educators to adopt responsible approaches to integrating these tools into language classrooms.

The book is divided into seven chapters, each of which explores key themes related to the role of AI in higher education. Starting with foundational concepts and advancing through the practical applications of AI tools like ChatGPT, the authors provide readers with a nuanced understanding of the capabilities and challenges of AI. The book is a vital resource for educators, administrators, and scholars seeking to understand the intersection of AI and education, as well as its potential to reshape the pedagogical landscape.

The introductory chapter entitled *Introduction to Artificial Intelligence in Higher Education* effectively lays the groundwork for understanding the transformative potential of Artificial Intelligence (AI), Big Data, the Internet of Things (IoT), and Generative AI (GenAI) in higher education. By tracing AI's evolution from its origins in the 1950s to its categorization into ANI, AGI, and ASI, it provides readers with a clear historical and conceptual framework. The focus on ChatGPT by OpenAI as a practical example highlights the immediate applicability of AI in academic settings, while the discussion of Big Data, IoT, and GenAI underscores their interconnected role in advancing education. The chapter thoughtfully addresses both the opportunities and challenges associated with integrating these technologies into classrooms, encouraging readers to reflect on their practical implications. Overall, it provides an insightful and balanced introduction, paving the way for a deeper exploration of AI's impact on higher education.

Chapter 2, *AI Literacy for Educators and Students*, emphasizes the critical need for educators and students to cultivate a comprehensive understanding of AI, encompassing its functionality, ethical implications, and classroom applications. The authors define AI literacy as more than technical skills, advocating for a holistic grasp of how AI tools operate and the dilemmas they may pose. Central to this discussion is the Dynamic AI Literacy Model (DAILM), which provides a layered, profession-specific approach to AI literacy, recognizing that fields like healthcare, business, and education require specialized knowledge due to the high stakes of AI-driven decisions. By integrating AI literacy into the broader framework of digital literacy, the

chapter highlights its importance for all stakeholders in higher education as AI becomes increasingly integral to academic and professional contexts.

Chapter 3, *Strengths and Weaknesses in Embracing ChatGPT in Curriculum Design*, provides a balanced analysis of the opportunities and challenges associated with incorporating generative AI tools like ChatGPT into higher education curricula. The authors highlight its potential to enhance active learning, critical thinking, and personalized instruction, supported by illustrative case studies demonstrating its role in fostering creativity and problem-solving across disciplines. At the same time, the chapter addresses key challenges, including concerns over reduced critical thinking, accuracy limitations, and ethical dilemmas. By categorizing these challenges into three stakeholder groups, students and teachers, educational institutions, and society, the authors offer a clear framework for understanding the diverse perspectives on AI integration. While this structured approach is valuable, the chapter could have expanded on the mitigation strategies for ethical and practical issues, as well as examined the potential for over-reliance on AI tools to hinder independent thought. Overall, the chapter provides a thoughtful and nuanced exploration of this evolving topic.

Chapter 4, *Redesigning Assessment in the AI Era*, examines the potential for generative AI to reshape assessment methodologies in higher education. The authors highlight the advantages of AI tools, such as offering real-time, adaptive, and personalized assessments that could enhance the quality and efficiency of feedback. They also present six strategies for redesigning assessments, including the AI Assessment Integration Framework, which introduces nine distinct assessment types. While the chapter provides an insightful vision for the future of assessments, it also recognizes the challenges of integrating GenAI, particularly in maintaining traditional educational values like authenticity, integrity, and fairness. However, the chapter could have given more attention to the potential for AI to deepen inequalities, especially in regions where access to AI technology is limited. This omission suggests a need for further consideration of how to ensure equitable access to AI-enhanced assessments across diverse educational contexts.

Chapter 5, *Developing AI in Education Policy*, presents a detailed and structured examination of the need for comprehensive policies to guide the integration of Artificial Intelligence (AI) in education, addressing ethical and regulatory concerns. By reviewing AI policies from regions such as the US, EU, China, and UNESCO, the chapter provides a valuable global perspective, showcasing the diverse approaches to transparency, fairness, accountability, safety, and privacy. The inclusion of Chan's (2023) AI Ecological Education Policy Framework—organized into Governance, Operational, and Pedagogical Dimensions—adds depth by highlighting key areas for policy focus, from ethical oversight to practical implementation and optimizing teaching with AI. A step-by-step blueprint for developing institutional AI policies further enhances the chapter's practicality, offering actionable guidance for policymakers. While the chapter effectively emphasizes the importance of policy, it also briefly touches on the complexities of balancing innovation with regulation and adapting policies to diverse educational systems, encouraging thoughtful consideration of these challenges without overshadowing its practical focus.

Chapter 6, *Understanding GenAI Technology*, offers a detailed exploration of the technical foundations of Generative AI, including a historical overview of artificial neural networks and an explanation of the processes involved in creating GenAI models. The chapter provides

valuable insights for readers interested in the underlying technology, helping them develop a deeper understanding of how these models are built and function. However, while the technical content is informative, it may be challenging for novice readers or those unfamiliar with AI-specific terminology. Despite this, the chapter succeeds in offering a solid introduction to GenAI's complexities, and with some additional explanations or simplified examples, it could become more accessible to a wider audience. Overall, it serves as a helpful resource for those looking to grasp the foundational aspects of GenAI technology while also highlighting the need for clarity when presenting complex technical concepts to diverse readers.

Chapter 7, *The Future of AI in Education*, provides an insightful exploration of Generative AI's (GenAI) transformative potential, contextualized through reflections on past technology adoptions and predictions about societal and institutional impacts. The chapter examines GenAI's implications in higher education, from reshaping pedagogy and research to streamlining funding proposals and journal submissions, while incorporating practical insights from tools like OpenAI ChatGPT, Google Bard, and Microsoft Bing Chat. It also addresses critical aspects such as job impacts, safety considerations, and the roles of governments and AI development companies in shaping the adoption and trajectory of GenAI. By illuminating the intersection of broader societal changes with educational practices, this chapter highlights the evolving relationship between GenAI and the future of learning.

The book makes a significant contribution to education, particularly in language teaching and learning, by exploring how AI can reshape educational paradigms. Through discussions on the practical applications of tools like ChatGPT in higher education, the authors illustrate how AI can enhance teaching and learning by offering personalized assistance, streamlining administrative tasks, and providing real-time feedback. However, the volume also emphasizes the importance of critically examining the ethical implications of rapid AI integration, urging educators to balance technological innovation with careful reflection on its broader societal impact.

Another key innovation of this volume lies in its focus on AI literacy as a means to foster informed and responsible engagement with AI technologies. By equipping educators with tools and frameworks to enhance their own understanding of AI, the authors empower them to guide students in making ethical and well-informed decisions about AI's role in their academic and professional lives. This emphasis on developing AI literacy highlights the transformative potential of educators in shaping a responsible approach to AI use in education.

Finally, the book introduces the AI Ecological Education Policy Framework, a comprehensive model structured around three dimensions: governance, operational implementation, and pedagogy. The authors propose a multifaceted approach to AI policy that integrates ethical governance, practical strategies, and pedagogical optimization. This framework provides institutions with a valuable guide for establishing responsible AI policies that align with both educational objectives and societal needs, advocating for a holistic, learner-centred approach to AI integration in education.

To sum up, *Artificial Intelligence in Higher Education: The ChatGPT Effect* offers a comprehensive, thoughtful exploration of the opportunities and challenges presented by AI technologies in education. Cecilia Ka Yuk Chan and Tom Colloton provide a valuable resource for educators, administrators, and policymakers seeking to understand and navigate the complexities of AI integration in higher education. The book's innovative contributions lie in

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4 its balanced assessment of AI's potential and its critical engagement with the ethical,  
5 pedagogical, and policy-related issues surrounding its use. While the book is an essential read  
6 for those interested in the intersection of AI and education, it may not be as accessible to novice  
7 readers unfamiliar with AI terminology or those in developing countries where AI adoption  
8 presents unique challenges. Nevertheless, the authors' clear, structured approach makes this  
9 book a vital tool for anyone looking to understand the future of AI in higher education and its  
10 implications for teaching and learning.  
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