# Chapter 8
# Application of ChatGPT in Doctoral Education and Programming:
## A Collaborative Autoethnography

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## ABSTRACT

*This collaborative autoethnographic study explores the integration of AI tools in doctoral education, focusing on instructional methods, program planning, and curriculum development. Drawing on faculty experiences, strengths such as content speed and organization are identified alongside weaknesses like trustworthiness issues and limited critical thinking abilities. Implications highlight the need for quality assurance, AI literacy training, and clear policies. Recommendations include establishing guidelines, proper AI tool attribution, and continued research to understand AI's impact. The study underscores the importance of thoughtful integration of AI to maximize benefits while addressing limitations effectively.*

DOI: 10.4018/979-8-3693-1054-0.ch008

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## INTRODUCTION

Even as the field of higher education grapples with its strengths and limitations, artificial intelligence (AI) tools are actively in use in academia. Therefore, regardless of opinion, these tools should be acknowledged. As Farrelly and Baker (2023) contend, "if our aim is to equip our students with skills, knowledge, and competencies that will allow them to thrive in the 21st century, we need to rapidly adapt our programming to include AI literacy and competency" (p. 7). Developing writing skills is crucial for doctoral students (Calle-Arango & Ávila Reyes, 2023), and the field of AI, particularly natural language processing (NLP) technologies, is poised to become a powerful tool for supporting the education of doctoral students.

One popular NLP model is OpenAI's ChatGPT (Generative Pre-trained Transformer). There is a lively debate regarding the appropriate use of NLP technology in teaching and learning, especially around academic integrity (Sullivan et al., 2023). Small studies of scholars and students reveal a positive reception (Limna et al., 2023) and a recent study of the literature concluded that AI and ChatGPT are viewed as having the "potential to serve as a significant asset in education" (Grassini, 2023, p. 2). Overall, the perceived quality of AI systems like ChatGPT relate to an increased likelihood that students and educators view AI as relevant to their learning (Chen et al., 2023).

Amidst this literature is a debate on the paradigm and pedagogical shifts that come with the AI revolution. Early findings from Firat (2023) reflected on how student interactions with these tools may shift pedagogy from constructivism (i.e., forming an understanding) to constructionism (i.e., using critical thinking to build knowledge). Another purported paradigm shift was in student access to academic assistance (Wibowo et al., 2023). Furthermore, Firat's findings emphasized how using the tool, even for writing literacy, would rely on digital literacy skills to support effective use of the tool, which has been supported by other authors (Rudolph et al., 2023b). While there is much to understand about the impacts of AI on teaching paradigms and pedagogical approaches, students and educators are using these tools, thus underscoring the need for continued research on their strengths and weaknesses.

Scholars have been publishing on how ChatGPT and similar NLP tools are being used in education settings since their release. Many of these papers are literature reviews documenting the strengths and weaknesses of ChatGPT in supporting student writing. This chapter diverges from the existing literature to capture the ways that faculty are using this tool in practice, in light of the documented strengths and weaknesses. Furthermore, this chapter focuses on supporting research writing, through programming and curriculum development, for doctoral students studying in the field of higher education. Using a collaborative autoethnography methodology, this chapter aims to construct meaning through lived experiences in their practice

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