

*Empowering Future Instructional Designers:
Ethical AI Integration for Inclusive Learning*

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Abstract

This work-in-progress study examines a graduate-level instructional design course focused on ethical AI integration, addressing critical gaps in AI education through practical application. Utilizing a backwards design approach, the online course integrated hands-on AI tools practice with ethical considerations in instructional design. Data collection will begin in March 2025. Initial student reflections suggest a potential transformation from basic AI tool usage to sophisticated prompt engineering and the ability to leverage a variety of generative AI tools in the instructional design process. This research aims to contribute practical insights for developing AI-integrated instructional design curricula and preparing future instructional designers for ethical AI implementation.

Keywords: Artificial Intelligence, Instructional Design, Higher Education, Ethics, Teacher Education

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Introduction

The increasing integration of artificial intelligence (AI) into educational practices has created a corresponding need to prepare instructional designers for effective and ethical AI implementation (Zawacki-Richter et al., 2019). While existing research explores technical aspects and policy considerations of AI in education, practical guidance for instructional designers incorporating these tools into their practice remains limited. This study, currently underway, addresses this gap by examining the development and implementation of a graduate-level course at the University of Alabama, focusing on practical skill development and ethical considerations related to AI (Holmes et al., 2022). The goal is to equip future instructional designers with a strong understanding and skill base to effectively and ethically utilize AI tools in their practice, a crucial step in ensuring their workforce readiness (McNeill, 2025).

Literature Review

Current literature acknowledges the transformative potential of AI in education but lacks concrete frameworks for implementation in instructional design contexts. The rapid evolution of AI tools, particularly generative AI, has created both opportunities and challenges for educational practitioners (McNeill, 2025). This course aims to address these challenges, focusing on AI's role in instructional design, exploring its benefits and limitations, and emphasizing practical skills such as prompt engineering. To ensure relevance and efficacy, a backwards design, student-centered approach was adopted, aligning with best practices in instructional design (Wiggins & McTighe, 2005).

Course Design and Content

The course design utilized a backwards design approach, integrating hands-on practice with multiple AI tools while emphasizing ethical considerations and real-world applications. The first course sections ran from May 2024 to July 2024 and the course was repeated in the next semester, August 2024-December 2024. The online course included several synchronous Zoom sessions, peer review, and opportunities for discussion.

The course covered the following topics:

- Introduction to Gen AI
- Ethical Considerations
- Prompting Fundamentals
- Learning Objectives and Outlines
- Assessments and Rubrics
- Authoring and Evaluating Course Content
- Generating AI Images
- Simulations and VR Integrations

Methodology

This study employs a mixed-methods approach to examine the experiences of 55 graduate students enrolled in an eight-module course on AI integration in instructional design. Data collection, which will begin in February 2025, will include post-course surveys and qualitative analysis of student reflections. A focus group with eight students is planned to provide deeper insights into the course's impact.

Anticipated Results

Analysis of anticipated student reflections is expected to reveal key themes related to AI literacy, skill development, and implementation challenges. Based on preliminary observations, students may demonstrate a transformation in their understanding and application of AI tools throughout the course. One student noted, "This course has already proven to be invaluable to my work...I used AI extensively for idea generation, content, assessment development, discussion forum prompts, and rubrics." This reflects the practical application of course concepts in real-world scenarios. Another key element of the course was ethics case studies, prompting discussion and analysis among students when making technology-related decisions.

The development of effective prompting strategies was central to the course, guided by the RESPECT framework (Role, End Goal, Specifics, Context, Enumeration, Constraints, Tone) (McNeill, 2024).

Theoretical Framework

The design of this course was informed by emerging theoretical frameworks for AI integration in instructional design contexts. Drawing from the modified Unified Theory of Acceptance and Use of Technology (UTAUT) model (Dwivedi et al., 2019), the course structure acknowledges that effective AI implementation depends on multiple interconnected factors: performance expectancy, effort expectancy, social influence, facilitating conditions, attitude, and behavioral intention. Each module was designed to address these components, with particular emphasis on building performance expectancy through hands-on activities and improving attitude through ethical case studies.

Recent research suggests that instructional designers' adoption of AI tools is significantly influenced by perceived usefulness and ease of use (Weng & Chiu, 2023), which aligns with the course's focus on practical application and structured skill development. The RESPECT (Role, End Goal, Specifics, Context, Enumeration, Constraints, Tone) framework for prompt engineering (McNeill, 2024) introduced in the course directly responds to the identified need for systematic approaches to generative AI interaction, addressing a gap identified in multiple studies regarding effective prompt engineering practices (Lo, 2023).

Methods

The mixed-methods approach planned for this study is well-aligned with current research methodologies in AI education. Similar studies examining AI integration in instructional design have employed both quantitative measures to assess skill development and qualitative analysis to capture nuanced perspectives on ethical implementation (Yogesh et al., 2023). Our planned focus group methodology parallels approaches used in studies of instructional designers' AI adoption patterns, where rich qualitative data has proven valuable for understanding contextual factors affecting implementation (Gupta et al., 2023).

The post-course survey instruments are being designed to capture not only technical skill acquisition but also changes in attitudes toward AI, addressing what Bozkurt (2023) identifies as the critical need to understand both the technical and affective dimensions of AI adoption in educational contexts. This holistic assessment approach acknowledges that effective AI literacy encompasses both practical skills and critical perspectives.

Practical Applications

Early student reflections from the course reveal patterns consistent with broader research on instructional designers' experiences with AI tools. Similar to findings from studies of practicing instructional designers (documented in the research literature), students have identified time savings, ideation assistance, and content development support as primary benefits of AI integration. The progression from basic usage to more sophisticated prompt engineering mirrors the adoption patterns identified in studies of professional instructional designers, where expertise develops through iterative experimentation with increasingly complex applications (Gibson, 2023).

One notable aspect of the course design is its emphasis on transparency and ethical considerations, responding directly to concerns identified in the literature regarding AI's potential limitations. By requiring students to critically evaluate AI outputs and implement verification processes, the course addresses what Khalil and Er (2023) identify as essential practices for responsible AI implementation. As one student noted, maintaining human oversight while leveraging AI capabilities represents the optimal approach to instructional design in the AI era.

Preliminary Results

Preliminary analysis of student engagement with the course modules suggests particular enthusiasm for prompt engineering techniques and ethical case studies. This finding aligns with research indicating that instructional designers prioritize maintaining control over AI outputs while maximizing efficiency benefits (Lim et al., 2023). Students' reflections on practical applications reveal a progression from viewing AI as a simple content generator to recognizing its potential as a collaborative tool throughout the instructional design process.

Challenges identified by students—particularly regarding verification of AI-generated content and maintaining pedagogical quality—mirror those reported by practicing instructional designers. This suggests that the course is effectively preparing students for real-world AI implementation challenges they will encounter in professional contexts. The iterative refinement of prompting strategies throughout the course appears to be addressing what research has identified as a critical skill gap among instructional design professionals (Lo, 2023).

As this research progresses, we anticipate that the longitudinal data will contribute valuable insights on effective pedagogical approaches for developing AI literacy among instructional design students, addressing a significant gap in the current literature on AI in education, which tends to focus more on technical implementation than on capacity building for educational professionals.

Limitations and Future Research

This study's primary limitations include its geographic scope within a single institution and the need for longitudinal data to assess long-term impact. Additionally, the researchers hope to determine the correlation between the RESPECT framework and student success using AI. As one student stated, "Prior to my use of AI, I would need many hours of brainstorming and thought development...but AI tools have expedited that process immensely."

Future research questions include:

- How does the integration of AI-assisted course design impact students' ability to create inclusive learning experiences?
- To what extent does hands-on AI experience influence students' attitudes towards and proficiency in using AI for educational purposes?
- What are the key challenges and opportunities identified by students in applying AI-generated content in ID practice?

Conclusion

This ongoing research seeks to provide practical insights for developing AI-integrated instructional design curricula while maintaining emphasis on ethical implementation. The anticipated findings are expected to support the importance of hands-on experience with AI tools balanced with critical consideration of their appropriate use in educational contexts. As AI continues to evolve, preparing instructional designers to effectively and ethically leverage these tools becomes increasingly crucial for the future of instructional design practice.

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