ImpactingEducation
JOURNAL ON TRANSFORMING PROFESSIONAL PRACTICE

Can AI Facilitate a Human-Centric Approach to Writing a Problem of Practice Dissertation?

Insights from Doctoral Students

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ABSTRACT

This essay explores the evolving role of generative AI within EdD programs, highlighting its transformative potential to support students throughout their dissertation journey. Through narrative inquiry, it shares the experiences of two doctoral students writing dissertations in practice about AI, while simultaneously negotiating the use of it in their research and writing. The essay centers around AI and the CPED framework, in particular, concepts of the problem of practice, inquiry as practice, and mentoring. By documenting these experiences, this essay offers valuable insights for students, faculty, and program directors navigating the integration of AI in doctoral education.

KEYWORDS

Artificial Intelligence (AI), CPED dissertation in practice, AI integration, generative AI and writing and research

When OpenAI released ChatGPT in November of 2022, in just five days, more than a million users were experimenting with the freshly available, free version of the app, and in just two months, it had attracted 100 million users (Lambert & Stevens, 2023). At that time, Brian and I were amid our coursework in an online, asynchronous Learning, Design, and Technology (LDT) program at a western United States land-grant university. As students in a program centered around the advancements of technology in learning, we knew we were experiencing a transformative phenomenon; it was an opportunistic moment for both our research and application as teachers. Given the emphasis on practical knowledge with which researchers address issues within their practice, it is unclear how current iterations of generative AI may support doctoral students in their research and writing.

This essay aims to address the evolving role of generative AI within EdD programs, acknowledging its potential to revolutionize writing, teaching, and research methodologies through narrative inquiry. As EdD students, we are primarily concerned with the kinds of influences generative AI might have on writing a dissertation embedded in a practice problem. Many institutions continue to prioritize the potential opportunities and ethical challenges of AI in undergraduate education, often overlooking the needs of graduate students. Doctoral students, on the other hand, have as much or even more to gain or lose from incorporating generative AI tools into their learning and research practices. Specifically, an EdD program that adheres to the Carnegie Project on the Education Doctorate CPED Framework often requires students to participate in research that stems from their professional practice and experiences. EdD candidates are typically required to conduct research derived from professional practice, focus on problem solving in practical contexts, and highlight the human experience in their field.

In this essay, advanced doctoral candidates who not only write dissertations about AI in writing classrooms, but also incorporate AI into their own research and writing, use narrative inquiry to shed light on their experiences. As a research method, narrative inquiry aligns with qualitative studies by exploring phenomena through the storytelling of individuals' lived experiences (Connelly & Clandinin, 1990; Kim, 2016). Narrative inquiry, similar to the foundations of the CPED framework, is based on the fundamental aspect of human experience. The CPED framework asks students to contextualize their dissertation in practice (DiP) within their educational contexts, which often requires understanding people's experiences in order to explore complex educational issues. Connelly and Clandinin (1990) argued for the use of narrative inquiry in educational research to tell our own stories and examine our roles as researchers and teachers. For this paper, we chose the narrative inquiry method because we believe that sharing our experiences as doctorate students and

teachers navigating AI in our classrooms could offer valuable insights to faculty and program administrators, helping them decide whether and how to integrate generative AI into their EdD programs. Documenting the journeys of advanced doctoral students not only provides practical insights but also enriches theoretical reflections that can inform both pedagogical practices and research methodologies within these programs.

AI AND THE HUMAN-CENTRIC DISSERTATION IN PRACTICE

A DiP is a scholarly endeavor that tackles a complex practice problem, often driven by a human connection to the problem (CPED, n.d.). Human experience frequently forms the foundation of these problems. In a study by Ma et al. (2018), real-world dilemmas or difficulties a student encountered in their local communities determined their choice of a practice problem. Students work on research integrated within their areas of expertise with the goal of enhancing career development and academia's relationship with the organization they serve (Storey & Maughan, 2016). This human connection to the problem is what often differentiates a DiP from a traditional PhD. Human-centric research, in which individuals serve as both the study's focus and the researcher's connection to the real-world problem at its core, intrinsically grounds the attributes of a DiP. Human-centric research typically incorporates methodologies and frameworks that prioritize the experiences, needs, and perspectives of students, teachers, and other educational stakeholders. Identifying a real-world problem inside one's practice, gathering data, analyzing the issue, and creating an action plan are all steps in this process (Hoffman & Perry, 2016). One of the primary responsibilities of a DiP practitioner is to address practice problems that are contextualized and connected to the practitioner's background, role, and responsibilities within their field (Storey & Maughan, 2016). This requires complex inquiry and social science research, often incorporating qualitative or quantitative methods. This presents the question of how AI can support a research pursuit so deeply rooted in human experience and practical application.

As doctoral students in the dissertation stage of our program, Brian and I are both excited and curious about how generative AI supports or complicates the dissertation process for EdD students who engage with complex problems of practice in their professions. The recent phenomenon of ChatGPT has pushed us to reconsider how AI situates itself within our work as teachers and scholarly practitioners. Through narrative inquiry, we explore how artificial intelligence can be leveraged as a valuable tool within problem of practice dissertations, which focus on enhancing and emphasizing the human experience. Following a series of questions, the sections below include our experiences and thoughts on how we have explored just that.

AI AS A PROBLEM OF PRACTICE

For an EdD student, the dissertation begins with the problem of practice, which is rooted in their educational practice. As students in a LDT program, our practice intersects with the advancement of learning through innovative technologies and human experience. When mainstream generative AI tools like ChatGPT emerged, they garnered significant attention from Brian and me, reflecting our commitment to exploring how such technologies influence human learning and interaction.

Q1. How has AI influenced your problem of practice?

Brian: Initially, my focus was on the integration of how open educational resources could impact constructivist teaching and learning environments. I knew that I needed to incorporate my current position as a fifth-grade English Language Arts teacher when considering my dissertation of practice. In 2022, it did not take long to notice the conversation regarding AI, specifically chatbots like ChatGPT, and their impact on teaching and learning. As a veteran fifth-grade teacher, I have always been interested in how to improve my students' writing. ChatGPT, as a writing intervention, has transformative potential in providing personalized support to help students develop opportunities for growth while also challenging more advanced students to further their progress as writers. Because ChatGPT can mimic human-like conversation, I theorized that perhaps students could interact with the tool throughout the writing process in a low-risk way to help improve their work. Because writing is a multi-faceted and complex process, there were numerous gaps in achievement on standardized and local assessments. Writing is subjective and dependent on a bevy of foundational principles; this has led students to have varying levels of success as writers when entering fifth grade. By allowing students to engage in ChatGPT throughout all stages of the writing process, I hope to provide them with a valuable tool that can be used to close gaps, unlock their potential, and foster confidence when writing.

Carrie: When I entered the program, my research focused on the digital divide, especially in an era of COVID and remote learning. However, as an instructor of first year writing at a private institution, when ChatGPT was released, I witnessed firsthand the fear and panic of faculty and administration as to how it would be used by students. I immediately started to talk to my committee chair about AI and the opportunities in writing that were, at the time, not being discussed. I found that there was a problem in that faculty were lacking knowledge and guidance on how AI can be integrated into pedagogical practice. This disruption reshaped my problem of practice and my current dissertation study. The problem of practice is the integration of AI in first-year writing classrooms and the varied attitudes of educators towards using it. These attitudes range from viewing AI as unethical to struggling to understand its application or not using it at all. My study is aimed at *addressing the growing need for a writing pedagogy embedded in and concentrated in AI.*

Although Brian and I teach in very different academic spaces and levels, as practitioners, we both see how AI can potentially provide solutions and add value to our writing classrooms. This is exactly what a dissertation in practice asks of scholarly practitioners—to draw on their own experiences, observations, and interactions to engage thoughtfully in their practice. AI has provided us with a timely opportunity to be part of transformative praxis in our field.

AI IN THE INQUIRY AS PRACTICE

CPED defines inquiry as practice as "the process of posing significant questions that focus on complex problems of practice and the ability to gather, organize, judge, aggregate, and analyze situations, literature, and data with a critical lens" (CPED, n.d.) As

scholars investigating the problem of practice, we engage deeply in a human-centric process that involves questioning, researching, analyzing, and synthesizing information. In this interactive endeavor, AI tools are not merely supplements but can serve as scholarly partners that enhance this interactive process. AI can support research design, data collection, and creating instrumentation such as surveys and interview questions (Grimes et al., 2023).

Q2. How has AI supported your inquiry of practice or how do you see it doing so?

Brian: AI such as ChatGPT has been a transcendent tool to use when engaging with inquiry as practice for a DiP. Prior pedagogical content knowledge and proper prompt engineering are critical for the use of the tool in this arduous process. AI has many capabilities, but without highly detailed prompts, its value diminishes. Prompt engineering helps foster the human-centric aspect of using generative AI for academic purposes because it requires the use of evaluative and analytical thinking. I have a formulaic approach I call role, command, format (RCF) depending on my query. Typically, I assign myself a role, such as a researcher, give a precise command to the machine, then specify in which format I'd like the response.

Leveraging my current content knowledge of the field, I have used AI to help in the discovery of sources related to using ChatGPT in the classroom. This has been paramount in the development of literature reviews and general topics of inquiry as I narrowed the design of my DiP. Additionally, I have used AI as a peer editor while negotiating critical thought to humanize and evaluate responses to strengthen my writing. ChatGPT has also been helpful with revising and refining research questions, outlining methodological approaches, and answering general questions related to a DiP focusing on quantitative measures.

Carrie: For me, inquiry has always been an external process in that I engage with research, people, and the context around me to explore ideas. As I found myself shifting my problem of practice to AI, it felt natural to engage with generative AI tools such as ChatGPT in both my research and the contextualization of it as a problem within my professional practice as a writing instructor. I needed to first investigate the ways in which AI presented a challenge within the classroom. I did so by experimenting with ChatGPT from the perspective of a student—how might AI help to write essays, respond to prompts, generate ideas, edit, etc.? This allowed me to gather information and analyze the role of AI in a first year writing classroom, leading to critical thinking about the opportunities and challenges but also facilitating questions of inquiry as to where and how AI might situate itself effectively within this context. I took these questions straight to AI and probed how it might respond to such questions about pedagogy and praxis. This interactive reciprocate inquiry I was engaged in with AI and my review of literature have played a crucial role in the shaping of my research questions. Additionally, as I continue to advance my prompting skills throughout the process, I find my interactions with generative AI more meaningful.

Although scholarly inquiry is driven by human curiosity and questioning, it does not need to be a solitary endeavor. Research suggests that there is a place for AI in various stages of the research process including idea development, the literature review, data analysis, editing, etc. (Khalifa & Albadawy, 2024). In our experience, incorporating AI as a research partner and collaborator replicates the peer-to-peer engagement that is often encouraged in doctoral programs.

AI AS AN EDD MENTOR

As doctoral candidates in a remote EdD program, we know that regular advising is a critical source of support and guidance, but that it can be qualitatively different from more traditional, in-person advising models. Research suggests that in an online program, a learner-centered mentorship strategy that makes use of various technologies, regular communication, clear goal setting, and progress tracking has proven effective (Kumar & Johnson, 2019). We were interested in our own advisor's perspective on the role AI could play in supporting human-centric activities associated with advising; the following is his written response.

Q3. What are your perceptions of AI as a supporting tool for mentoring and advising?

Dr. Cain: As a professor, advisor, and committee chair in Carrie and Brian's LDT program, I have encouraged my EdD students to consider how generative AI could serve as a multi-faceted resource in their DiP activities. Depending on their specific research topics and needs, students may find that generative AI can help them manage research logistics effectively. This includes helping support literature reviews, synthesizing data, identifying gaps in existing research, and brainstorming solutions and designs that aid in the planning and implementation required in practice-based research. In Zoom-based advising sessions with my students, I have explored with them in real time how generative AI could function as an on-demand tutor, clarifying complex theories and methodologies. Engaging generative AI using their emerging content knowledge, critical thinking, and iterative design skills (Cain, 2024) may also help students build insights into their own understanding of their dissertation topics. I believe these aspects of cognitive partnership with generative AI highlight essential human-centric aspects of this technology and could prove invaluable in a remote learning environment where direct access to advisors may be sporadic.

Depending on the students' outlook and interests, generative AI tools could enhance the DiP experience by simulating critical aspects of advisory interactions, which are often less accessible in remote settings. Interactions with generative AI tools can activate social cues in users, making engagement feel more organic. Sustained, judgment-free exchanges with these tools may engage students in deep, reflective discussions about their research topics, thus enhancing their critical thinking and analytical skills—key components of successful doctoral work. While I believe generative AI will not fully replace all human advisory roles and responsibilities, for remote online students, it could significantly enrich the advisory relationship by providing comprehensive support throughout the doctoral journey, thereby enhancing the students' learning experience and supporting their success in addressing real-world problems through their dissertations. Watching my students engage with generative AI in different capacities, I believe this emerging technology may provide essential support in the often isolated and independent context of remote doctoral research.

Writing a DiP is a comprehensive task with many ups and downs. We recognize and value the role of a mentor throughout the process, but as students in an online program, access to resources, support, and feedback can often feel challenging. AI has presented

itself in ways we did not expect as graduate students in that it can provide real-time feedback, support research practices, or even offer project management assistance for keeping on track.

ETHICAL CONSIDERATIONS

While this essay speaks to opportunities to use AI to support the writing of a DiP, there are ethical issues of integrity and bias that must be considered (Kasneci et al., 2023). Most ethical concerns in education have focused on plagiarism and the integrity of using AI to complete academic work, such as writing. Furthermore, these advanced models have the potential to hallucinate or generate "non-existent or incorrect content, as well as other related concerns associated with limited contexts, reliability, and a lack of learning from experience" (Alqahtani et al., 2023, p. 1237). Beyond the studied bias and hallucinations in generative AI use, there are questions around the ethics of using it in scholarship. Integrity is among the concerns raised about the use of AI in academic scholarship. Integrity, reproducibility, and rigor in research are critically dependent on "openness, transparency, and honesty about used methods and tools" (Hosseini et al., 2023, p. 451).

Brian and I are aware that the appropriate use of AI in writing and research is still a focus of debate, which is why we approach our own use with transparency and approval from our program. However, we do not advocate for the use of generative AI in the dissertation process as a text producer or as a reliable research database. Our approach and suggestions for future doctoral students are that AI may serve as a collaborative partner in the process of becoming a scholarly practitioner.

RECOMMENDATIONS

Brian and I have discovered opportunities for generative AI tools to support doctoral students throughout their dissertation journey, despite the ongoing debate about its use in education. From this narrative inquiry, we recommend EdD students, teachers, and program administrators take into account the following factors while considering the use of AI in the dissertation process.

Be Transparent

Transparency in using generative AI is crucial, especially in academic settings such as EdD programs, where research integrity is paramount. Brian and I had open conversations with our committee chair about how we were thinking about or planning to incorporate AI. This transparency led to engaging conversations about ethics and best practices. Doctoral students should disclose the extent of AI involvement in their work with their programs, especially with their dissertation committee, and reciprocally, programs should establish guidelines.

Define Purpose

Students should define what they aim to achieve with AI assistance, whether it's an active part of their practice problems, used to engage in inquiry, or supports the research design. We previously noted how we have used AI for a variety of purposes thus far, such as refining research questions or exploring ideas. Defining purpose will help students make informed decisions about when and how to use AI responsibly in their research.

Learn to Prompt

To be successful in integrating AI in a purposeful and effective way, students must familiarize themselves with the art of prompting. Prompt engineering "involves rhetorical skill, organization, and precision" (Cain, 2024, p. 51). Using prompt engineering strategies can lead to more accurate, relevant, and contextually appropriate AI outputs, as well as pushing for deeper critical thinking about the problem of practice.

CONCLUSION

The CPED framework was developed with the aim of reimagining the EdD program to "prepare educators for the application of appropriate and specific practices, the generation of new knowledge, and for the stewardship of the profession" (CPED, n.d.). These programs should thoroughly analyze AI, a highly anticipated and influential technology in education, for its potential advantages and challenges. Additionally, as the growing number of online EdD programs continues to emerge, AI has the potential to support doctoral students as scholarly practitioners in a transformative way. We hope this essay illustrates AI's potential applications in the process of writing a DiP. We not only invite doctoral students to consider AI in their scholarly inquiry and practice, but we urge teachers and mentors to investigate methods by which AI might enhance the educational experience and provide a dynamic learning environment for their students.

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