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An Action Research Study on Adapting with AI

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ABSTRACT

Universal guidelines for AI's use in the context of higher education remains unestablished. Despite this, doctoral students utilized AI to help in forming research ideas and with editing manuscripts. Thereby, the socialization of doctoral students into ethical AI use became imperative. This action research study had faculty and EdD students test AI tools to then make recommendations for guidelines on AI use for dissertation writing. Results showed AI use needed to be made clear and transparent alongside adopting a flexible approach to AI incorporation, given factors such as differing journal requirements. Furthermore, as doctoral students constituted novice researchers, they needed to realize that they would be responsible for AI's output. Keeping the doctoral identity at the forefront was core to advising doctoral students into the new era of responsible research.

KEYWORDS

Artificial Intelligence (AI), dissertations, doctoral students, ethics, higher education

Artificial intelligence (AI) promoted critical thinking by allowing a user to shift from basic to cognitively challenging tasks (Essien et al., 2024; Nguyen et al., 2024). For example, if using AI for editing, the user could then focus on strengthening arguments. Importantly, a researcher's ability to delegate tasks to a co-author or AI required experience and expertise, precisely what doctoral students were working towards acquiring. For example, a doctoral student's experience level could impact the quality of a literature review. Hsin et al. (2016) found less-experienced doctoral students engaged in shallow literature searches, including selecting few articles and relying on their references for the remaining literature. If these initial articles were suggested by generative AI, the resulting dissertation could lack quality if seminal articles were omitted and/or articles with poor methodology were integrated.

To ensure quality dissertations in the age of AI, higher education institutions need clearly defined policies on how doctoral students should use AI. However, across higher education institutions, there were no universally adopted policies on generative AI use (Barrett & Pack, 2023). The study herein sought to explore the perspectives of faculty and students, namely developing considerations for using AI in dissertation writing. This research sought to answer: What would recommendations for AI's use in dissertations comprise when co-developed by faculty and students?

FRAMEWORK

As noted by Gardner (2008): "Socialization is generally transmitted through the existence of the organizational culture, and in the case of graduate students, through the culture of higher education" (p. 127). Accordingly, socialization was seen as core in guiding students towards responsible research practices in the age of AI. As noted by Hall and Burns (2009), when students had mentors who intentionally guided them through the process of becoming researchers, they gained more from doctoral training. Accordingly, advisors were responsible for socializing students into academic norms, such as how to develop theoretical arguments (Hall

& Burns, 2009) and how to publish their work (Odena & Burgess, 2017). However, socialization was not a process that solely involved faculty imbuing knowledge onto students.

Tierney (1997) remarked: "The coherence of an organization's culture derives from the partial and mutually dependent knowledge of each person caught in the process and develops out of the work they do together" (p. 6). Culturally, for the program studied herein, faculty believed supporting student use of AI in the dissertation writing process was indispensable. However, doing so had to ingrain students with the idea that AI, like a problem of practice, needed to be examined critically. Further, the faculty believed students' first-hand experiences with AI needed to be core to guideline formation since students would be directly impacted. Further, according to Lovera et al. (2023), AI guidelines had to be clear and promote its ethical use.

LITERATURE REVIEW

As AI's capabilities continued to advance, the role of advisors needed to evolve. The responsibility of faculty was no longer primarily to guide students into producing quality research but faculty now needed to teach doctoral students how to conduct research with AI involved in the process, especially since doctoral students constituted novice researchers. This premise relied on students being critical of both scholarship and AI, necessitating the need for guidelines for research and writing.

Guiding AI's Use

There is little guidance on AI use for students. Notably, Barrett and Pack (2023) found that nearly 95% of university instructors did not guide students on the (in)appropriate use of AI. However, AI could enhance productivity and spark new scientific discoveries (Alasadi & Baiz, 2023), if used appropriately. This necessitated mindfully using AI in research.

Yet, with AI being a black box, outputs could be biased or even incorrect (Dwivedi et al., 2023). In other words, Zheng and Zhan (2023) state, "ChatGPT [an AI platform] simply extracts relevant data through literature searches, processes them, then creates its own story without considering the logic or accuracy of the story" (p. 726). Gao et al. (2024) found users who viewed ChatGPT as more credible were more trusting of the output. If students uncritically accepted AI output, they ran the risk of acquiring a shallow understanding of concepts (Yang et al., 2024). To capitalize on using AI, humans need to be conscious of how they integrated it (Fui-Hoon Nah et al., 2023). Further, Hosseini et al. (2023) recognized ethical issues raised by AI included plagiarism and accountability concerns, whereas Tang et al. (2024) expressed disclosing AI's use might eventually constitute responsible research practices. For this to be possible, one would need to be cognizant of AI's presence across the scholarly writing process.

Becoming Researchers

During the dissertation writing process, doctoral students learned to become researchers (Weatherall, 2019). When writing their dissertations, doctoral students developed subject expertise; however, questions of expertise could arise if AI aided in dissertation writing (O'Leary, 2023). For example, Meyer et al. (2023) noted there could be issues in discerning the researcher's voice from AI when the latter aided in writing. Thus, instructors were encouraged to adopt pedagogical strategies to tactfully foster human-AI collaboration (Nguyen et al., 2024). Employing a human-in-the-loop approach to using AI constituted such an approach, where humans needed to check for quality (Longo, 2020).

Students found AI helpful on tasks such as summarizing articles; furthermore, AI-driven research tools enhanced students' critical thinking by assisting in refining ideas (Yang et al., 2024). Nevertheless, Nguyen et al. (2024) asserted that higher level cognitive skills were necessary for a synthesis and critical review of literature, which was a level of scholarly engagement that AI could not achieve. Accordingly, Khalifa and Albadawy (2024) purported there needed to be a balance between the efficiency allowed via AI integration and human oversight. Such oversight would be critical for doctoral students who were also turning to AI for assistance in writing their dissertations, including guidance in designing studies (Carless et al., 2024).

Feedback provided to doctoral students was core in developing their written identities (Botelho De Magalhães et al., 2019). Given this, advisors and faculty were seen as central to socializing doctoral students into the research process (Khalid et al., 2023). However, there was minimal research on doctoral students' perceptions of ChatGPT for scholarly writing (Zou & Huang, 2023).

Thereby, the study herein examined students' perceptions, alongside faculty's, in how AI could be incorporated within the dissertation process. This would allow one to understand how faculty could guide the development of researchers, and action research was employed as the method.

METHODS

This study employed collaborative action research, where the aim was applying research practically (Mitchell et al., 2009). Within action research, participants engaged as co-researchers across each phase of study (Merriam & Tisdell, 2015). Importantly, herein, all participants were co-authors/co-researchers, actively working together from the proposal to the write up.

This study sought to integrate the perspectives of both faculty and doctoral students to create recommendations for AI's use in dissertation writing. Nguyen et al. (2024) remarked that "the use of AI in academic writing necessitates a reevaluation of pedagogical approaches to ensure that students develop critical thinking and analytical skills" (p. 2). Accordingly, action research comprised a method that allowed enhancement to areas such as programs (Bennett & Brunner, 2022), which aligned with this research herein since the aim was to revise guidance for the EdD program studied. In this sense, by involving advisors and advisees, perspectives of both experienced and novice researchers could direct discussions of how to involve AI meaningfully and ethically in the dissertation process.

Research Context and Participants/Co-Researchers

Stringer (2014) highlighted that action research sought meaningful interactions that were "nonexploitive and enhance the social and emotional lives of all people who participate" (p. 23). Accordingly, departmental socialization aligned with Tierney's (1997) view in the sense that culture was built as a larger collective, where students were core to it. In other words, the department sought to

enhance the doctoral experience by involving students in guiding their own process of socialization. As such, the faculty's stance on socializing doctoral students underscored a culture of transparency and open dialogue with students to drive continuous improvement to the EdD program.

Collectively, the participants/co-researchers of this study comprised four faculty in an educational leadership department along with three doctoral students who worked with these faculty members. All faculty members advised doctoral students. The faculty ranged from having one to five years of university teaching experience, including advising. Additionally, three of the faculty members taught dissertation-specific courses to students, including the student co-researchers herein. Among the faculty, there was one who regularly used AI, continually reading about new advancements. Another faculty member casually used AI for drafting emails. The two remaining faculty were familiar with AI but did not regularly use it. Demographically, among faculty, there were two White males and two White females in the study.

Among the doctoral students, two co-researchers were simultaneously full-time employees and EdD students while the third was a graduate assistant and full-time student. All student participants had college-level teaching experience. One of the students, who was working on their dissertation's literature review, was an AI enthusiast, with AI as their research agenda. Another student, who was nearing their dissertation proposal defense, dabbled in the use of AI and incorporated it in their research as well. The last student, who was deciding their dissertation topic, minimally used AI. Demographically, all students were female with two White and one Black.

Data Collection and Analysis

The research team recognized that AI tools needed to be tested before guidelines could be meaningfully discussed, which necessitated a multi-layered approach to data collection. Prior to data collection, the research team assessed different categories of AI (e.g., literature search tools and data visualization tools). The choice for including divergent AI categories was because there was a recognition that specific software might eventually cease to be updated or exist, but broader AI categories would remain. Categories included those for searching for/within articles, editing, examining biases/consensus, summarizing literature, and general-purpose AI tools. This would reflect the different stages of the dissertation process, ranging from the initial literature search to final edits. Accordingly, a shared Google Doc permitted everyone the opportunity to propose potential platforms for review, with around 20 total tools suggested. Each member of the research team independently reviewed at least one AI tool in-depth. A group meeting determined the final tools for study. The final tools reviewed included AskYourPDF, ChatGPT, Consensus, editGPT, Microsoft Copilot, ResearchRabbit, and scite.ai.

Phase One

In the first phase of data collection, data were collected from journals and a focus group. Specifically, each member of the research team wrote in an individual Google Doc journal, describing their experiences, potential concerns, considerations for faculty and students, and any comments for each tool over the span of about a week. After journaling, a focus group interview was conducted, following a social constructivist perspective, where the process of meaning making encompassed a social act (Ryan et al., 2014). Accordingly, a 75-minute focus group interview was held over Zoom in an unstructured format. Notably, unstructured interviews strived to enrich understanding (Fontana & Frey, 1994). Seeing how co-researchers could re-direct the dialogue to provide a breadth of perspectives on AI, the unstructured format allowed for "free-flowing conversation" (Mueller & Segal, 2015, p. 1). The overall aim of the journals and focus groups during this phase was to both familiarize all participants with AI tools for dissertation purposes and to allow ample reflection on potential guidelines for AI use.

After member checking the focus group's transcript and applying pseudonyms, analysis began. The coding team consisted of a faculty member and two students. The focus group's transcript and journals were analyzed inductively, following the steps of thematic analysis (Braun & Clarke, 2006). Analysis began with an immersive phase, where all written documents were read and re-read. Memoing occurred alongside each readthrough. Preliminary themes were assigned and reviewed. For example, trust was found during the inductive analysis when discussing privacy issues. Coding was then reviewed reflexively, with multiple coders discussing whether interpretations were accurate while reflecting on potential biases (Byrne, 2022). Themes were then member checked, which co-researchers reviewed to aid them during phase two.

Phase Two

During the second phase of data collection, all co-researchers were invited to contribute to a collaborative guideline draft, which was followed by another focus group discussion. This guideline draft contained the initial recommendations for guiding AI use for dissertations from the first focus group round in a Google Doc. Participants were encouraged to add their feedback and additional recommendations. After collective input from all co-researchers on the draft, a second 75-minute focus group was held in an unstructured manner via Zoom. Analysis of the collaborative guideline draft and second focus group followed the same thematic analysis steps described above, ensuring consistency or dependability—a rigor consideration.

Rigor and Authenticity

Trustworthiness was core from the onset of this study. Notably, for a line of inquiry to be rigorous, conceptualization and realization required being scrupulous throughout (Merriam & Tisdell, 2015). To address credibility, member checking occurred across all transcripts and themes. Triangulation of documents and focus groups provided a richer, more holistic understanding of co-researchers' perspectives (Merriam & Tisdell, 2015). Further, transferability was achieved with thick description (Geertz, 1973), including the context and direct quotes. Additionally, dependability and confirmability were addressed through memoing and maintaining an audit trail (Lincoln & Guba, 1986), allowing for consistency and reflexivity.

Concerning authenticity, fairness included recognizing all perspectives were valuable, actively encouraging participants to speak, and including faculty and students during all phases of this research project. Constant use of member checking helped ensure fairness by representing all participants' perspectives in the write up (Lincoln & Guba, 1986). The incorporation of focus groups and the guideline draft aided in ontological and educative authenticity, where differing beliefs could be shared and appreciated (Lincoln & Guba, 1986). Finally, catalytic authenticity was a key goal of the study as an

initial draft of AI guidelines were sought to be created after the study's conclusion.

PHASE ONE FINDINGS: TESTING AI TOOLS

The initial phase of data collection focused on testing AI tools for potential inclusion in dissertations. Analysis of journals and the first focus group resulted in five themes. These themes comprised: (a) ethical AI use, (b) trust issues, (c) needing AI literacy, (d) thoughtful AI incorporation, and (e) AI for sparking collaboration.

Ethical AI Use

Plagiarism was seen as a central issue in integrating AI for dissertation purposes. Seeing AI as harmful and consequential was expressed by Trisha, a doctoral student, asking, "Will I get penalized? Will this be not considered mine because I put it in there?" Trisha's journal accentuated a need for clarity surrounding plagiarism: "Instructors should help students determine what is plagiarism and what isn't. For information that is generated by the AI (like [an] image) should that be cited? And how do you cite it?" Alan, a faculty member, echoed Trisha's take when journaling, "We have to consider when and how to attribute work to AI… AI doesn't have ethics or morals." During the focus group, Alan reiterated the importance of considering ethics, "You can't just say AI made this for me, I'm washing my hands of it."

However, plagiarism could be unintentional. For Marie, a doctoral student, AI dramatically revised her writing, testing her confidence: "My prompt was, 'Can you proofread this?' And it completely rewrote it. I was like, 'Jeez! I didn't want you to rewrite it.' …I don't always love my writing, and to me that's a slippery slope." Unintended rewriting also led to misattribution. Jake, a faculty member, detailed, "It also changed the citation… It said, 'Well, it should be this…' I wanted to make sure that, 'Okay, is this, actually…?' Nope, it changed it to the wrong citation."

Ethical concerns surrounding AI extended into conversations about cost. Trisha emphasized apprehension over money: "I also didn't like the fact that it was $20 a month. Respectfully, I'm broke." Sam, a faculty member, repeated this unease, "I don't think students are gonna [*sic*] like cost at all… It wasn't terrible, except for that cost."

Financial tensions were heightened by platforms that offered trials. Marie commented free trials could be especially dangerous to students' budgets as they might forget to cancel: "I constantly am like, 'Oh, yeah, I gotta [*sic*] cancel that when I see it go across my bank account,' so I don't like that for students." Taylor, a doctoral student, agreed on the likelihood of forgetting to cancel free trials, "If I don't write it in my calendar, then it will be like two months from now, and I'll be like 'Oh, they got me.'" Hearing all the doctoral students raise questions over the price, Alan reflected on how there was "an ethical piece for us as faculty asking people to use [paid AI]." Blake, a faculty member, shared a counter-perspective, seeing AI as an investment: "How are we preparing you for a career and to go forward as a researcher? …This is where things are going. You need to be prepared for this."

Collectively, costs needed to be weighed against the idea of incorporating AI literacy to prepare students. Additionally, transparent conversations with doctoral students were necessary to clarify when AI use crossed into plagiarism. Given the plagiarism discussion, it was unsurprising that using AI sparked trust concerns among participants.

Trust Issues

AI was a convenient option, but one that was somewhat mysterious and potentially incorrect. Alan recognized how AI existed to serve a purpose, even at a user's detriment, "We don't know how it's working. It's really easy to think of it as the easy button… You can tell it it's wrong. It'll be like, 'Oh, yeah, you're right. I'm wrong. I'll give you another answer.'" Jake immediately chimed in, adding that the revised output "could also be wrong." Jake's journal similarly relayed, "Writers would need to be aware that ChatGPT may provide erroneous information." In her journal, Trisha expressed how trusting output was potentially troublesome: "A student would have to take what was said at face level" if sources were not provided. Even when references were present, they might lead nowhere as Marie informed the focus group, "It gave me seven articles, and two of the links were broken. How accurate is it really?"

When output was correct, the information sources could still be suboptimal. Blake's experiences in clicking led to sources that were not even journals, expressing: "It literally gave me blogs." Taylor noted the same issue, "It would bring me to things like an [article], which probably was over the content but not peer-reviewed, not scholarly." Alan described how his output was not dissertation-quality, "I do worry a little bit about some of the sources that it kicked back. I got one, and I went to the link, and the journal had misspellings in its title and logo." Trisha expanded on this idea, remarking journal output could be problematic in content as well, conveying: "Looking at the methods, it might not be quality."

Lastly, a point was made about being wary to provide AI with one's data. Trisha conveyed anxiety in uploading her dissertation work, "I was scared to put my stuff in there." Alan made the point there was one platform that could be trusted since "the version we're using is through [the university], we know they're not training the [large language model] on our data." As such, understanding platform security should be embedded within AI literacy.

Needing AI Literacy

Prompting struggles were prevalent across the entire team, where frustrations with AI use largely stemmed from a need for training on how to provide AI with commands or input. Prompting lessons were noted as necessary by Marie, "My biggest concern is, and I felt this too, there's really no how to or what to do, and the prompting is the part that you have to learn how to do." Her journal furthered the need for continuing engagement with AI, "Not everyone is going to understand that it may take a few times of sparring with the AI to get what you need." Blake's journal emphasized a call for prompting lessons, "Prompt engineering definitely needs to be taught. I mean, *thoroughly*."

In the focus group, Trisha repeatedly articulated prompting had to be "very specific." Sam furthered this comment, remarking on output resulting from poor prompting, "If you do not give it really good directions, it gives you really weird outcomes." Jake further remarked that there were AI platforms that were "not intuitive." Accordingly, Trisha insisted on tutorials, such as "a quick snippet or a video." Marie agreed with Trisha as tutorials provided "some direction." However, this relied on tutorials existing.

Taylor tried to find a tutorial for one tool to no avail: "I'm gonna [*sic*] sound like a true student here, because I could not get it to work… I tried to look for tutorial videos, and I couldn't… All I could get was a blank screen." Blake adopted a similar tactic, but did not find videos helpful, "I did watch their [video]. I was like, 'Well, that helped with nothing.'" Overall, not only was training necessary in introducing AI to faculty and students alike, but it needed to be done in an accessible and understandable manner. The need for AI literacy then expanded into a recognition that AI had to be integrated thoughtfully.

Thoughtful AI Incorporation

Both faculty and students agreed AI needed to be adopted in stages during the dissertation process. Trisha explained that a dissertation's status required different AI tools: "What process [you are] within your dissertation will matter a lot." Agreeing with Trisha, Alan noted how introducing AI at the right time was imperative, "I had a student this past week… Who is really struggling with a brief. I shared [AI tool] with them at that point. …They needed it in that moment, and it was super helpful."

The timing of AI tools necessitated a program-wide approach in adopting AI. Sam narrated that the doctoral program was working towards this, "What we're trying to do… We want them to start it in [101] and be able to be finished with it by the time they graduate. We don't want [AI] for just like one and done." Interweaving AI throughout the program was recognized as beneficial by Taylor, especially for literature reviews:

> A number of [the professors] said, "Don't recreate the wheel. Keep using the same topics in all of your classes…" And I think this would be a great way to build that repository of articles, and then draw from it in each of your classes and not constantly search.

Thoughtful AI incorporation further extended into its actual use. Blake was cognizant of AI's potential in helping students identify biases: "What if somebody's really, strongly biased on a topic? …I thought, for [101] specifically, it would be a good place to just start to say [to AI], "Hey, what's out there?" Sam saw the value in this, especially seeing that a student would put a claim in a dissertation draft and then put "insert citation" as opposed to searching the literature. Thus, students were "writing towards their bias." In this sense, AI could be a research collaborator. Additionally, AI could also promote collaboration among researchers.

AI for Sparking Collaboration

AI functioned as a facilitator of collaboration with various sharing mechanisms. Accordingly, co-researchers appreciated AI tools for their collaborative capabilities, including across doctoral committees. Taylor declared that AI allowed for sharing with faculty, "I thought it was a great way to share with my advisor, 'Here's what I looked at.'" Blake similarly expressed, "It would be really cool to have students create a collection and then invite their faculty members, so we could see all the research you've done. Is it comprehensive? Are you being biased?" Alan agreed with Blake, remarking that being able to "quickly add to a collection was really nice" along with the ability to "share [collections] with colleagues." Beyond sharing, Marie noted how using collaborative tools such as "little notes" was "really easy."

Despite recognition over AI's abilities to spur collaboration, Trisha added the perspective that AI could present tension in advising relationships: "If we start depending on these things, then I will kind of lose my dependence on my professor or my advisor." It became clear it was imperative to include faculty and students in decisions surrounding AI to ensure enduring respect and relationships.

PHASE TWO FINDINGS: DRAFTING AI GUIDELINES

After testing AI tools, co-researchers were able to discuss their impressions of AI and then ruminate on what guidelines should constitute AI use within dissertations. Thus, the second phase of research involved collaborating in drafting considerations for AI guidelines. Analysis of the guideline draft and the second focus group arrived at five themes. These themes included: (a) flexibly incorporating AI, (b) the human is responsible, (c) responsibly teaching AI literacy, (d) transparency in guidelines and AI uses, and (e) learning to become a scholar.

Flexibly Incorporating AI

A need for flexibility in incorporating AI was seen as paramount for dissertation writing guidelines. Alan illustrated this with a metaphor: "I don't think that AI will fit everybody's work in exactly the same way… There's more than one way to frame a house. You can use nails or screws. They both do the job." Jake further highlighted that flexibility with AI was key because of varying exposure levels: "Some of them will not have had much experience with AI and some others will have a lot." Seeing a need for flexibility with AI incorporation, Alan acknowledged AI guidelines could be adapted for each doctoral course, "Taking each of these bullet points… In a sort of program-wide set of guidelines and saying, 'Here's the specific use cases within [601: Identifying Your Research Problem]. Here's the specific use cases within [602: Writing the Literature Review]."

Further, there was some disagreement as to what adopting AI in a flexible manner entailed. Alan commented on "not insisting that people use AI but providing this as a resource." However, Trisha argued for AI literacy for doctoral students, allowing them to decide the flexible portion: "If we're trying to make sure that we're promoting literacy equality across the board, then yes, it would be good for everyone to understand the capabilities of it. What they choose to do with it, it's their own essentially."

Needing flexibility was especially pertinent for students who were pursuing the multiple article dissertation format. Taylor proclaimed, "Some journals don't allow AI or don't want to accept anything with AI." Sam vocalized a personal experience with such requirements, sharing a declaration for submission: "At no point did I use AI to write any part of this manuscript."

However, Trisha recognized that AI was allowable for some outlets, "We also need to be very, I wanna [*sic*] say careful, but, at the same time, somewhat flexible… Is someone targeting a specific journal? …Then we should be kind of lenient because that is acceptable for their target audience." Blake reinforced that selecting specific journals would be imperative to guiding AI use for articles: "We need to know [what journal] you're targeting pretty early on… So we know whether or not to use AI." Moreover, AI's writing would ultimately be attributed to a human, necessitating an understanding of the weight of human responsibility.

The Human is Responsible

The human being responsible was repeatedly mentioned throughout the focus group. Alan called attention to human responsibility being made explicit in guidelines, “Across the board is that whatever the output is from the AI should not be the final word.” Jake suggested making it explicit that the student bore responsibility for AI’s output, “I don’t know if it goes on the bottom of everything in bold [is] the student is responsible for this.” Blake added to this by drawing attention to salience in human responsibility when using AI: “Really make it clear that, at the end of the day, you’re responsible for this.” Blake further stressed the need to verify an AI tool’s output, “You better check it, because, ultimately, if that’s your downfall, that’s on you.”

However, emphasis on the ramifications of humans using AI was moot without students realizing this. Taylor remarked that the idea of a human holding responsibility had to be internalized by students: “But do you understand what it’s saying? …Is it still in my voice? Is it still the message that I’m intending?” Within the guideline draft, Taylor illuminated, “I like the idea of using an ethics prompt/lesson to help clarify, understand citation and disclosure, and reinforce the human feedback loop. This seems to be needed early in the program.” Trisha explained an approach to training during the focus group:

> I think there’s use in it. I don’t want to say that there’s an absolute “No, don’t do it.” I think it’s just a matter of training and educating us on what it does and how we can use it appropriately and efficiently.

Sam summarized this facet of the conversation in real-time by commenting, “It all comes down to the human.” To grasp the researcher’s responsibility in integrating AI’s work, AI literacy had to be taught in a responsible fashion.

Responsibly Teaching AI Literacy

Teaching AI literacy required broad considerations, including explicit programmatic aims. Marie asked what the larger purpose was in inviting AI into the dissertation process: “What are your goals as a program for your doctoral students? And is one of them AI literacy?” Blake’s response was that AI literacy was imperative since students were pursuing doctorates in educational leadership: “The audience that we’re catering to is principals, superintendents, and people who work in higher education… If we don’t teach them how to be AI literate, they’re going to assume that these [tools] can accurately detect AI.” To illustrate this, Marie reflected on how being new to higher education could be detrimental without a solid understanding of AI:

> If I would come in two years from now versus now, I wouldn’t know anything about AI, and I would probably feel at a disadvantage. I do think it’s important that people do get that literacy ‘cause [*sic*] I know there’s still a lot of people that I hear talking about it all the time that don’t know anything about it, and don’t necessarily even want to have the conversation. I don’t think that’s an option at this point.

Thus, programmatic aims needed to span the broad scope of AI literacy, including how to use AI and the limits of detection tools.

Further, timing was key with respect to adopting AI tools. Taylor expressed the need to start the doctoral program with AI literacy, “Beginning the program with some type of literacy, how to do what this can do, what this might look like in general is a great starting point.” Trisha added that AI discussions would also need to be dynamic, “I think it would be helpful to require it… To guide other individuals that they’re going to be interacting with on how to use the tool… As it evolves.” Alan reiterated Trisha’s point by noting “there’s a lot of gray still” with AI. Alan continued, saying, “What’s ethical in [101] in terms of using an output versus what you do in [102] may not be the same.”

Divergent stances on AI ethics in coursework became more complicated by having doctoral classes that were required in other programs, where faculty outside our EdD program might not be receptive to AI. Marie noted how this was a difficult situation for driving guideline recommendations: “Not sure how to deal with other professors.” During the focus group, Sam recognized the difficulty of having outside doctoral students within our classrooms, “Talk about our program, we’re so cohesive. Where to me it’s like, ‘Oh, we can give and take. We can share… We’re pretty much on the same page.’ But when you start having other students from other programs…” Thus, faculty’s differing views on AI could present a source of tension on AI incorporation from an interdisciplinary perspective.

This interdisciplinary perspective extended beyond faculty members. Trisha noted that outside fields could have competing conceptualizations of ethics and AI: “You don’t know who you’re getting from whichever program and maybe AI usage is something that’s not encouraged from their discipline.” Blake remarked that choosing not to teach AI literacy to all students could be unethical, despite their fields: “For our students, if they’re AI literate that gives them a kind of edge. It’s ethical to teach them that edge. By not doing that to the other students, we’re disadvantaging them.” Thus, the ethical concerns of using AI were compounded by whether depriving students of AI based on their fields could be detrimental. Despite uncertainty regarding how to address AI with other program’s students, both faculty and researchers recognized the need for transparency in using AI for dissertation purposes.

Transparency in Guidelines and AI Uses

Transparency of AI use was seen as instrumental, including documenting use across the dissertation process. Disclosure throughout one’s dissertation was recommended by Alan, “Continual journaling throughout the process of working through their dissertation and coursework… Documenting the ways in which they’re using AI.” Taylor relayed documentation could be presented in a journal format: “How much did you use AI? How much [changed]? If you use a reflexive journal or portfolio, can you note in your reflexive journal where you started and where you ended up?” Alan, in the draft, supported the argument for citing AI: “I also like the idea of a statement somewhere in their work—we would need to come to consensus on the degree of disclosure/citation.”

Having a collaborative draft to outline AI use for dissertations was valued for achieving transparency. Taylor appreciated having the collaborative guideline draft as a reference for what responsible AI use encompassed for dissertation writing: “This is a really nice, explicit document that, regardless of the course… Here’s the things we want to keep in mind here are kind of the basic guidelines, so to speak, of what we’re trying to do.” Trisha noted the timing of guidelines was key, conveying it would be a “great thing to say at an orientation.” Additionally, Trisha recommended a larger conversation on AI ethics when onboarding doctoral students: “This encompasses how AI is going to be used in our program…”

Transparency was additionally recommended by sharing AI writing guidelines across an institution. Taylor encouraged distributing AI guidelines to potentially interested faculty, "A suggestion that I have is a kind of an onboarding or a place where this can all live… Because if there… Are some other professors that are interested in getting involved… That would be a great supportive tool." Sam succinctly conveyed, "Taylor, I love that idea."

The conversation then took a turn to discussing faculty being transparent in their own AI uses. Trisha asked, "Will professors or will the courses also be using AI in the evaluation of students' work?" Alan asked if this was something that students desired: "As a student, would you want that information disclosed the way that I may or may not use it on any given assignment?" Here, Trisha pointed out a larger ethics issue surrounding AI being used for students' work unknowingly, "I worry just about the privacy issue. You never know who's gonna [*sic*] type in something similar and get my results." Alan clarified the need for transparency with students' work: "When we're talking about actual student work, uploading an entire document or something like that needs to be done with the absolute utmost caution… And certainly not done without the student's knowledge." The focus on students was the crux of the final theme, where the novice identity was central to crafting AI guidelines.

Learning to Become a Scholar

There were concerns expressed in needing to be cautious in AI use with doctoral students, especially as they were still learning to become researchers. In the guideline draft, Trisha commented that AI needed to be warily approached by doctoral students, "Students should still know and understand how to write strong research questions… Prior to using AI for this purpose. If we are only teaching them to do this with the use of AI, we could aid their reliance." Trisha expressed a fear of students becoming dependent on AI in the focus group: "If [students are] seeing a tool that's producing something that they perceive to be better than they could be overly reliant on it or just kinda [*sic*] use it to judge their material as if mine is bad." Similarly, Blake made a point that considering students' identities should remain at the forefront of faculty's minds when implementing AI, "What's really important to remember is that doctoral students are novice researchers. They are learning how to do research, and they don't know what's okay or not. And we're socializing them as faculty into these norms."

Importantly, AI could be perceived as a threat to students becoming researchers. Taylor gravely discussed this issue:

> One of the deeper implications of using AI is the end result for me as a student is, I want to come out of my research feeling like I'm somewhat of an expert on a topic. I want to be able to propose thoughtfully and be able to answer questions. I want to be able to defend and be able to answer questions. If I'm using AI to cut corners… I do put myself in jeopardy of not being an expert at the end of not knowing what I'm talking about… And I think it could be easy to cut corners.

This demonstrated that socializing students into the use of AI had to be mindful. Otherwise, it could be AI becoming the expert as opposed to the student.

Therefore, teaching students research skills prior to incorporating AI was seen as valuable. Jake noted how non-AI skills also needed to be learned by doctoral students, "Even if all you do is use the interlibrary loan, knowing how to do that is important." Trisha echoed the need for "grunt work" before AI would be introduced. She went on to add: "I feel like we as growing scholars, as growing professionals, still need to know how to do it on our own before we introduce technology into it, especially because it keeps evolving."

IMPLICATIONS AND DISCUSSION

Given the dearth of universal guidelines on AI use for higher education (Barrett & Pack, 2023), doctoral programs need to clearly stipulate what AI use is (in)appropriate for dissertation writing, especially when it comes to research ethics. Plagiarism concerns need to be an ongoing, dynamic conversation when it comes to AI, especially considering its capabilities will only continue to evolve. Notably, Meyer et al. (2023) argued that it could be difficult to ascertain contributions when AI becomes involved in scholarly writing. Similarly, Tang et al. (2024) argued that, when implementing AI, it could be difficult to know how to properly cite these tools. The students studied herein echoed these concerns. Therefore, guidelines for AI in dissertation writing should "ensure clarity and facilitate the responsible use of AI-generated content" (Lovera Rulfi & Spada, 2023, p. 6). Within this conversation, doctoral students should have clarity on how to assign attribution and what contributions are theirs.

Importantly, AI impacted the developing researcher identities of doctoral students herein. Specifically, doctoral students expressed concerns as to how using AI impacts the perception of them as experts. Since dissertations represented the voices of writers (Botelho De Magalhães et al., 2019), AI's use could bring up the question of whose voice is represented. Accordingly, the intersection of identity and AI constituted an area that faculty needed to concern themselves with when advising. In other words, using guidelines to clearly state when a dissertation is no longer the student's voice is necessary. This will help students recognize their developing expertise, ensuring students are socialized into the new AI-related norms of academia.

There was a repeated stress herein that it had to be made salient to doctoral students that they would be responsible for any AI outputs in dissertation writing. This reinforced Gao's (2024) and Yang's (2024) point on the need for students to be critical of research, especially when employing AI. Otherwise, doctoral students might not become true experts. Thus, it is key to adopt a human-in-the-loop approach to AI guidelines for dissertation work, where human verification would be key to robustness (Longo, 2020). This can be aided by adopting AI for dissertation writing in a collaborative manner.

Faculty can socialize students into (in)appropriate use of AI throughout the dissertation process, enhancing AI literacy on both sides, if AI use is a negotiated process among faculty and students. This would adopt Tierney's (1997) socialization stance with respect to AI use. While updating the collective understanding of gray ethical areas, guidelines can be jointly, with faculty and student input, revised to reflect the current state of AI. Further, via this approach, students' developing expertise can be understood, ensuring they are becoming researchers. Building on Hall and Burns' (2009) commentary on how advisors can help students gain more from their doctoral journeys, socializing students into what a researcher is and when AI has become the researcher is core to a doctoral student's development.

FUTURE RESEARCH

This study aimed to engage in a collaborative approach to first try AI tools and then arrive at AI guideline considerations with the input of both faculty and doctoral students. However, this study was limited to one department of educational leadership. Notably, a point was made that AI acceptance could vary based on the respective concentrations of doctoral students. Thus, future research should involve AI conversations with faculty and doctoral students from other departments and fields to explore differences based on both institutional cultures and respective fields.

Moreover, a question was raised as to how AI could affect doctoral-student advisee relationships. Accordingly, future research should examine the level of AI use by advisors and how this affects relationships with advisees. Such information would be critical to a larger understanding of how to socialize students into AI from the perspective of higher education institutions.

Lastly, future research should examine how doctoral students engage with scholarly sources versus AI. Understanding how doctoral students critique, verify, and synthesize information based on the source (i.e., peer-reviewed articles vs. AI) will aid in both how to socialize doctoral students into becoming researchers and how to craft guidelines on assessing sources for dissertation incorporation.

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