Beyond the Algorithm: A Qualitative Inquiry into Graduate Students' Experiences with AI-Assisted Research Proposal Writing

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Abstract

The rapid integration of Generative AI (GenAI) in higher education presents transformative opportunities but also instigates "AI anxiety" and profound ethical dilemmas regarding academic integrity. While existing literature largely focuses on quantitative performance metrics, there remains a paucity of research exploring the lived experiences and internal transitions of students navigating this technological shift. This study aims to fill this gap by exploring the subjective perceptions and cognitive adaptation processes of graduate students utilizing the "ETHIC Model," a pedagogical framework integrating the 3Es coaching process (Engage, Empower, Enliven) with human-in-the-loop principles. Adopting a qualitative phenomenological research design, data were collected through in-depth, semi-structured interviews with 13 graduate students from a Master of Education program. Methodological triangulation, including interview transcripts and audit trails, ensured the rigor of the findings. Thematic analysis revealed three dominant themes: (1) Transformation of Anxiety to Agency, where empathetic coaching and psychological scaffolding shifted students' mindsets from viewing AI as a threat to an empowered collaborative partner; (2) Redefining Academic Integrity, as students moved beyond a binary view of ethics toward "responsible verification" and active fact-checking habits; and (3) The Irreplaceable Human Element, emphasizing that human wisdom, contextual intelligence, and emotional support remain essential for fostering critical thinking. The study concludes that effective AI integration in research training demands a holistic "High Tech, High Touch" design that prioritizes human oversight and epistemic agency alongside technological proficiency.

Keywords: *Generative AI, Coaching Psychology, Research Agency, Epistemic Agency, Qualitative Inquiry, Human-in-the-loop, Graduate Research Training*

1. Introduction

1.1 Background

The advent of Generative Artificial Intelligence (GenAI), particularly Large Language Models (LLMs) like ChatGPT, has fundamentally disrupted the landscape of higher education. This disruption is most evident in the domain of research training, where the traditional roles of researchers are shifting from sole creators to "architects" who orchestrate AI tools for enhanced productivity and creativity (Xiang et al., 2024). For graduate students tasked with producing rigorous scholarly work, GenAI offers unprecedented opportunities to streamline literature reviews and refine methodologies (Xiang et al., 2024). However, as researchers evolve into orchestrators of these technologies, the focus must shift from mere technical execution toward the strategic management of intelligent systems (Dhirajlal & Prajith, 2025). This transition demands a nuanced understanding of how human expertise and algorithmic efficiency can be synergistically integrated to maintain academic rigor (Nguyen et al., 2024).

1.2 Problem Statement

However, this technological integration acts as a double-edged sword. It introduces significant psychological and behavioral challenges, notably "AI anxiety"—the fear of technological incompetence or being replaced—and deep ethical confusion regarding authorship and plagiarism. This confusion is often exacerbated by institutional inconsistencies in AI policies, which leave students without a clear ethical compass (Turingan, 2025). Furthermore, there is a growing concern about "cognitive offloading" or "cognitive laziness," where students may over-rely on automated outputs without engaging in critical thinking, potentially diminishing their intellectual development (Bekar, 2025). Beyond academic integrity,

there is a profound risk that such over-reliance could inadvertently displace the acquisition of foundational research skills—both explicit and implicit—necessary for scholarly growth (Mormul et al., 2024; van Veggel, 2025). As students gravitate toward algorithmic efficiency, they risk losing the "epistemic agency" required to navigate the complexity and discomfort inherent in high-quality doctoral journeys (van Veggel, 2025).

1.3 Research Gap

Despite the proliferation of studies examining the functional effectiveness of GenAI in improving academic scores and research quality (Qadeer, 2025), there remains a critical paucity of research exploring the lived experiences of students navigating this transition. While recent literature highlights the role of AI in enhancing writing confidence and efficiency (Qadeer, 2025; Triyanti et al., 2024), current studies largely focus on measurable outcomes rather than the pedagogical and psychological processes involved. Furthermore, there is a limited understanding of how students navigate the significant limitations of these tools, such as AI's struggle with synthesizing comprehensive literature or providing verifiable citations (Dhirajlal & Prajith, 2025). Existing frameworks often fail to capture the internal phenomenological struggles and the emotional transition from initial excitement to a rational, critical appreciation of AI's role (Zuo et al., 2024). By focusing on the "human-in-the-loop" experience within the ETHIC Model, this study fills a significant gap in understanding how students move beyond technical proficiency toward responsible, self-assured scholarly production while maintaining their identity as ethical researchers (Xiang et al., 2024; van Veggel, 2025).

1.4 Context of Study

This study addresses the aforementioned gap by investigating a specific pedagogical intervention implemented in a graduate-level Research Methodology course: the "ETHIC Model." This innovative framework integrates the 3Es coaching psychology (Engage, Empower, Enliven) with "AI-in-the-loop" principles, designing a learning environment where human supervision actively guides technological interaction to restore human agency in automated systems (Natarajan et al., 2025).

1.4.1 The Pedagogical Intervention: The ETHIC Model To address the complexities of AI integration, the researcher developed the "ETHIC Model," a competency-based learning framework. This model fosters an "iterative" rather than "linear" collaboration pattern, which is essential for high-quality academic outputs (Nguyen et al., 2024). The framework consists of five distinct phases:

E - Empathetic Engagement: The process begins with building psychological safety. The coach uses deep listening to understand students' "AI anxiety" regarding technological displacement, establishing a trust-based relationship that facilitates the emotional transition necessary for rational AI adoption (Zuo et al., 2024).

T - Technological Collaboration: Students are introduced to GenAI tools not as replacements but as collaborators. In this phase, students utilize AI to refine research topics and generate initial outlines (Chauke et al., 2024), focusing on "Prompt Engineering" skills to effectively communicate research intent to the AI.

H - Human Wisdom: This phase emphasizes the superiority of human expertise and ethical judgment. Guided by the principle that AI cannot replace human reflexivity (Shivananda et al., 2024; van Veggel, 2025), students are trained to evaluate AI outputs using domain knowledge, ensuring the research remains aligned with rigorous theoretical frameworks.

I - Integrity Verification: A critical step where students rigorously fact-check AI-generated content. Drawing from the necessity of rigorous information verification to mitigate the risks of "hallucinations" (Triyanti et al., 2024), the curriculum enforces a strict "verify-then-trust" protocol. Students must cross-reference AI-generated claims with established academic databases to ensure absolute academic honesty (Dhirajlal & Prajith, 2025).

C - Constructive Co-creation: The final phase involves synthesizing human insights with AI-generated drafts. This phase produces "hybrid" texts where the human researcher remains the central

meaning-maker and primary author (Lopes et al., 2024; van Veggel, 2025), resulting in a coherent and original research proposal.

1.5 Research Aim

Tprimary aim of this research is to explore the perceptions, emotional responses, and collaboration patterns of graduate students within the ETHIC model. By adopting a qualitative inquiry, this study seeks to provide deep insights into how human-centric coaching can transform "AI anxiety" into "research agency" and foster responsible ethical behaviors. Specifically, the research aims to examine how the move toward iterative, highly interactive human-AI engagement—facilitated by the 3Es coaching process—enables students to overcome the psychological barriers of technological displacement and develop a "rational appreciation" of AI's capabilities (Nguyen et al., 2024; Zuo et al., 2024). Furthermore, the study seeks to articulate the role of human wisdom and "epistemic agency" in mitigating the risks of cognitive laziness and ensuring scholarly accountability in an increasingly automated academic landscape (van Veggel, 2025; Shivananda et al., 2024).

2. Objectives

The primary objectives of this qualitative phenomenological research are to provide a nuanced understanding of the human-AI interaction through the following goals:

2.1 To explore the lived experiences and emotional transitions of graduate students as they navigate the shift from "Research Anxiety" to "Research Agency" within the ETHIC Model framework. This includes identifying the specific psychological barriers and the "turning points" facilitated by empathetic coaching.

2.2 To analyze the patterns of human-AI collaboration, specifically identifying how students move beyond linear AI usage toward an iterative, co-creative process that preserves their unique scholarly voice and prevents the loss of authorial identity.

2.3 To investigate the ethical decision-making and verification processes employed by students when reconciling AI-generated outputs with academic integrity standards and human wisdom, focusing on how they transform from passive consumers to active "editors-in-chief" of their own work.

2.4 To articulate the transformative role of "human-in-the-loop" coaching in mitigating the risks of cognitive displacement and fostering epistemic agency among novice researchers, ensuring that technology serves as a scaffold for higher-order thinking rather than a replacement for human intellect.

3. Materials and Methods

3.1 Research Design

This study utilized a qualitative research design grounded in a phenomenological approach. This methodological choice was driven by the research aim to understand the essence of the "lived experiences" of graduate students as they engaged with the "ETHIC Model" intervention. Phenomenology is particularly suitable for this inquiry as it prioritizes the participants' subjective interpretations of their reality, allowing for a deep exploration of how they navigated the complexities of AI anxiety, ethical decision-making, and the adaptation to AI-assisted research proposal writing. By focusing on the "human-in-the-loop" experience, this design allows the researchers to move beyond measurable outcomes—such as test scores—to capture the internal transformations and emotional transitions that occur during the research process. This approach aligns with the need for a "model of" coaching, which acknowledges the multivariate, eclectic, and often contested nature of real-world practice.

3.2 Participants

The key informants for this study were 13 graduate students enrolled in the Master of Education program in Curriculum and Instruction at Rangsit University, Thailand. The participants were selected using

purposive sampling based on the criteria of active enrollment in the Research Methodology course and successful completion of the AI-integrated learning modules. This specific cohort represents "novice researchers" who, while possessing basic content knowledge, lacked significant practical experience in structuring formal research proposals. This demographic was intentionally chosen as they are most vulnerable to "Research Anxiety" and stand to benefit significantly from the scaffolded support provided by the AI-integrated coaching model. The participant pool consisted of a mix of novice researchers (54%), who had no prior formal experience, and intermediate researchers (46%), who had previously engaged in undergraduate theses or classroom action research. To ensure confidentiality, pseudonyms (Student 1–13) are used throughout this study. The detailed demographic profiles and research backgrounds of the participants are presented in Table 1.

Table 1 *Demographic Information of Participants*

Participant	Gender	Research Interest Area	Prior Research Experience
Student 1	Male	Mathematics (Gamification & KWDL)	Intermediate (Classroom Action Research)
Student 2	Female	Social Studies (PBL & Critical Thinking)	Intermediate (Undergraduate Thesis)
Student 3	Female	Literature (Flipped Classroom)	Intermediate (Undergraduate Thesis)
Student 4	Female	English Vocabulary (Duolingo App)	Novice (No prior experience)
Student 5	Female	English Vocabulary (CLIL & Spaced Repetition)	Novice (No prior experience)
Student 6	Female	Thai Reading (CAI & Constructivism)	Intermediate (Undergrad & Classroom Research)
Student 7	Female	Civics (Simulation Games)	Intermediate (Undergraduate Thesis)
Student 8	Female	Law & Civics (Mock Trial Activity)	Novice (Academic reports only)
Student 9	Male	Health Education (Musculoskeletal Care)	Novice (No prior experience)
Student 10	Female	English Speaking (Digital Storytelling)	Novice (No prior experience)
Student 11	Female	Science (Inquiry-based & PhET)	Intermediate (Undergraduate Thesis)
Student 12	Female	Music Education (Game-based Learning)	Novice (No prior experience)
Student 13	Male	Thai Literature (GPAS 5 Steps)	Novice (No prior experience)

Note: Pseudonyms (Student 1-13) are used to maintain confidentiality.

As detailed in Table 1, the 13 graduate students brought diverse research interests ranging from Mathematics to Music Education. The variance in research proficiency—with 54% novice and 46% intermediate researchers—provided a robust context for this phenomenological inquiry. This diversity allowed the study to explore how the ETHIC Model addresses the needs of learners across different competency levels: scaffolding foundational skills for beginners while enhancing methodological rigor for those with prior experience.

3.3 Data Collection

The data collection process was strategically designed to capture the depth of students' lived experiences while maintaining high ethical standards. Primary data were gathered through in-depth, semi-structured interviews conducted strictly after the completion of the course and the final grading process. This timing was critical to ensure voluntary participation and to eliminate any potential conflict of interest between the researcher-coach and the students. The research instrument consisted of an open-ended interview guide meticulously developed based on the 3Es framework (Engage, Empower, Enliven) and aligned with the PAIGE model for academic integrity. These interviews aimed to elicit qualitative insights regarding the participants' learning transformation, their conceptualization of the "Coach vs. AI" roles, and the specific strategies they employed to resolve ethical dilemmas during the research proposal writing process. To accommodate the diverse needs and locations of the 13 participants, a hybrid interview approach was

implemented to maximize engagement. This approach included on-site interviews for 5 participants, conducted in person at the Faculty of Education, Rangsit University, following standard safety protocols. Simultaneously, virtual interviews were conducted for 8 participants via Zoom Video Communications, which provided a flexible and comfortable environment that fostered open disclosure and reflective dialogue. Each session lasted approximately 45–60 minutes and was audio-recorded with the participants' explicit informed consent. By integrating these qualitative interviews with the results from the research proposal writing ability tests and satisfaction surveys, the study achieved methodological triangulation, ensuring a rigorous and comprehensive understanding of the participants' transition from research anxiety to mastery.

3.4 Data Analysis

To establish academic rigor and distinguish this qualitative inquiry from previous quantitative evaluations, the data collected from the 13 participants were analyzed using thematic analysis, strictly following the established six-step framework proposed by Braun and Clarke (2006). The analytical process commenced with an immersive familiarization phase, involving repeated listening to audio recordings and thorough reading of the verbatim transcripts derived from both on-site and Zoom interviews. This was followed by the systematic generation of initial codes and a search for broader themes that captured the essential "lived experiences" and internal psychological shifts of the students . The researcher then engaged in reviewing, defining, and naming these themes to produce a final report that accurately reflects the phenomenon of learning transformation under the ETHIC Model. To ensure trustworthiness and mitigate researcher bias, member checking was performed, allowing participants to verify the accuracy of the synthesized themes and ensuring the findings remained grounded in their authentic perspectives. The synthesis of significant statements into formulated meanings provided a structured understanding of how students transitioned from technology-induced apprehension to research mastery . Table 2 illustrates the thematic categorization of individual student reflections, identifying the psychological and ethical transitions facilitated by the coaching intervention.

Table 2 *Example of Thematic Analysis Process: From Significant Statements to Themes*

Significant Statement (Quote)	Formulated Meaning	Theme
"I was scared to even open ChatGPT. I felt like a fraud... if I used it, the research wouldn't be truly mine." (Student 4)	Feelings of guilt and fear regarding academic dishonesty and technology usage.	**Theme 1:** Transformation of Anxiety to Agency
"The coach told us, 'You are the captain; AI is just the wind.' That metaphor changed my mindset." (Student 9)	Cognitive reframing of the human-AI relationship, shifting locus of control to the student.	**Theme 1:** Transformation of Anxiety to Agency
"I check every reference. If I verify it... then I am the author, and AI is just a tool." (Student 2)	Defining integrity through the active process of verification rather than avoidance.	**Theme 2:** Redefining Academic Integrity
"ChatGPT is cold... My coach knew when I was stressed just by looking at my face." (Student 11)	Recognition of the emotional gap in AI and the necessity of human empathy.	**Theme 3:** The Irreplaceable Human Element

3.5 Trustworthiness

To ensure the rigor and quality of this qualitative inquiry, the researcher applied the criteria proposed by Lincoln and Guba (1985). Credibility was established through member checking, where participants were asked to review the synthesized themes to confirm they accurately reflected their authentic experiences**. Transferability** was addressed by providing a "thick description" of the research context, the specific participant demographics, and the operational phases of the ETHIC Model, allowing other educators to assess the applicability of the findings to their unique settings. Dependability and confirmability were maintained by keeping a detailed audit trail of the data analysis process, which documented the systematic transition from raw verbatim transcripts to final thematic clusters. This

transparent documentation serves to minimize researcher bias and ensures that the findings are clearly derived from the participants' data rather than the researcher's preconceptions.

4. Results and Discussion

The thematic analysis of the interview transcripts revealed three distinct themes describing the students' journey through the ETHIC Model.

4.1 Theme 1: Transformation of Anxiety to Agency

The first and most prevalent theme emerging from the data was a profound psychological shift among participants, characterized by a transition from a state of fear and hesitation to one of confidence and control. This transformation reflects an emotional transition from initial apprehension toward a rational and critical understanding of AI's role, as observed in recent research (Zuo et al., 2024). This transformation was not instantaneous but occurred through a structured process of reframing the human-AI relationship.

(Initial Feelings: Fear, Guilt, and Overwhelm) Initially, the majority of participants expressed high levels of "AI anxiety" and moral distress. They perceived GenAI not as a helpful tool, but as a potential threat to their academic integrity and intellectual development. Many reported feelings of guilt, fearing that utilizing AI was synonymous with "cheating" or "short-cutting" the learning process. As one participant vividly described:

> *"At the beginning, I was scared to even open ChatGPT. I felt like a fraud, thinking that if I used it, the research wouldn't be truly mine. I was paralyzed by the fear of unintentional plagiarism." (Student 4)*

Beyond ethical concerns, some students faced "technological overwhelm," feeling pressured by the rapid pace of AI advancement. This aligns with concerns that unguided AI integration can lead to deep ethical confusion and a fear of technological incompetence (Mormul et al., 2024). They feared looking incompetent compared to their peers.

> *"I felt overwhelmed by the technology. Everyone said it was easy, but I didn't know how to talk to the bot. The coaching sessions helped me realize that it's okay to not know everything. Learning to prompt is a journey, not a magic trick." (Student 6)*

(The Turning Point: Empathetic Engagement) The data indicate that the "Empathetic Engagement" (E) phase of the ETHIC Model served as the critical turning point. The human coach played a pivotal role in establishing "psychological safety," which is essential for reducing technology-related stigma and facilitating the rational adoption of AI (Zuo et al., 2024). By listening without judgment and validating the students' struggles, the coach reduced the stigma associated with AI usage. Crucially, the coach reframed AI as a "junior researcher" or a "collaborator" that needs guidance, rather than a "ghostwriter" that dictates the work. This cognitive reframing helped students overcome their resistance and move beyond a "zero-tolerance" mindset toward responsible governance (Bagash et al., 2024).

> *"The turning point was when the coach told us, 'You are the captain; AI is just the wind.' That metaphor changed my mindset. I stopped feeling guilty and started feeling responsible for steering the ship. I realized I could use the wind to go faster, but I still choose the destination." (Student 9)*

(Discussion) This finding aligns with principles of Coaching Psychology, particularly the concept of emotional scaffolding. As noted by Fazel et al. (2025), coaching interventions in higher education significantly reduce academic anxiety by providing validation and emotional support. The transformation observed here also reflects the development of "epistemic agency"—where the student remains the central meaning-maker and takes active responsibility for the research narrative (van Veggel, 2025). When the coach empowered students to take the lead in prompting (Agency), their internal locus of control shifted. As noted by Nguyen et al. (2024), this "human-in-the-loop" synergy allows for a highly interactive and iterative collaboration pattern that enhances both productivity and scholarly growth. This shift from "AI Anxiety" to "AI Agency" is fundamental for sustainable technology adoption in research and serves as a safeguard against the "cognitive laziness" often associated with unguided AI use (Bekar, 2025; Dhirajlal & Prajith, 2025).

4.2 Theme 2: Redefining Academic Integrity through Verification

The second theme illuminates how students navigated the ethical gray areas of using GenAI. The data suggest that the coaching process helped students move from a binary view of ethics (good vs. bad) to a more nuanced, process-oriented understanding. This shift was essential in transforming their approach from "avoidance" to "responsible engagement."

(The Plagiarism Dilemma and Intellectual Imposter Syndrome)

Participants initially wrestled with a profound "Plagiarism Dilemma" . They were unsure of the boundaries between assistance and authorship. Several students reported feeling a sense of "Intellectual Imposter Syndrome," fearing that using AI-generated text—even for brainstorming or outlining—might constitute academic dishonesty. This confusion often led to avoidance behaviors or anxiety about losing their own voice, a phenomenon recently identified as a primary barrier to ethical AI adoption (Turingan, 2025).

> *"I was confused. If AI suggests a sentence, and I use it, is it mine? I felt like I was cheating myself. I didn't know where the line was drawn between inspiration and plagiarism. It felt safer not to use it at all." (Student 7)*

(The Emergence of "Responsible Verification")

However, as the course progressed through the "Integrity Verification" (I) module, a distinct behavioral pattern emerged: "Responsible Verification" . Students began to define integrity not by the absence of AI, but by the presence of rigorous human verification. They adopted a strict habit of fact-checking every claim and cross-referencing AI citations with primary sources, effectively mitigating the risks of "AI hallucinations" (Triyanti et al., 2024; Dhirajlal & Prajith, 2025). One student compared this new mindset to how they learned to treat other secondary sources:

> *"I used to think plagiarism was just copying text. Now I know that using AI ideas without checking is also a form of intellectual dishonesty. The 'I' module taught me to treat AI like a Wikipedia page—useful for starting, but never the final source." (Student 10)*

This verification process became the mechanism that restored their sense of ownership. By critically evaluating the AI's output, they reclaimed their role as the primary author.

> *"My definition of honesty changed. Honesty now means I don't trust the AI blindly. I check every reference. If I verify it, correct it, and synthesize it with my own ideas, then I am the author, and AI is just a tool." (Student 2)*

(Discussion)

This shift represents a practical application of AI Ethics in the modern context. As Francis (2025) argues, academic integrity in the generative AI era requires a transition from "prohibition" to "transparency and responsibility" . The students' behavior perfectly illustrates the Human-in-the-loop (AI^2L) concept, where the human researcher acts as the critical checkpoint or verifier . Furthermore, the coaching intervention successfully prevented "Cognitive Offloading" or "Cognitive Laziness"—where learners let technology do the thinking (Bekar, 2025; Mormul et al., 2024)—and instead promoted "Cognitive Engagement". By actively critiquing and improving upon AI suggestions, students upheld scholarly standards and demonstrated that AI tools, when governed by structured pedagogy, can serve as catalysts for higher-order thinking (Solanke, 2024; Bagash et al., 2024).

4.3 Theme 3: The Irreplaceable Human Element

The final theme underscores the limitations of technology and the enduring necessity of human connection. While participants acknowledged that AI accelerated their workflow, they unanimously agreed that the human coach provided something AI could not: empathy, wisdom, and contextual understanding. This reinforces the "High Tech, High Touch" philosophy, suggesting that technological integration is most effective when grounded in a strong social coaching process (Agarwal & Sivaraman, 2024; Jones et al., 2002).

(What AI Cannot Provide: Emotional Support) Participants frequently distinguished between the "functional" support of AI and the "emotional" support of the coach. While AI could generate text, it could not understand the internal struggle of the writer. The coach's role in providing encouragement during periods

of burnout or self-doubt was cited as a key factor in their persistence. As noted by Fazel et al. (2025), this "Pedagogy of Care" is essential in the AI era to reduce academic anxiety and promote well-being, functions that algorithms currently cannot replicate.

> *"ChatGPT is cold. It gives answers, but it doesn't care if I fail. My coach, however, knew when I was stressed just by looking at my face. That 'Are you okay?' from a real person meant more than a thousand generated words." (Student 11)*

(Bridging the Contextual Gap: The "Soul" of Research) A critical limitation of GenAI identified by students was its lack of "lived experience" and cultural context. Participants noted that while AI could produce grammatically perfect text, the content often felt generic or disconnected from the specific realities of the Thai educational context they were studying. This observation aligns with the finding that AI often struggles to synthesize comprehensive literature or identify precise research gaps relevant to local cultural nuances (Dhirajlal & Prajith, 2025; Zuo et al., 2024). The human coach was essential in bridging this gap.

> *"The AI writes perfect English, but it has no 'soul.' It doesn't understand the Thai educational context or the specific school culture I am studying. My coach helped me inject the local context and cultural nuances that the AI completely missed. The coach breathes life into the robotic text." (Student 8)*

(Unlocking the Writer's Block: From Answers to Wisdom) Furthermore, the data highlighted the coach's ability to "unlock" cognitive blockages that AI often exacerbated. When AI provided generic or repetitive responses, students felt stuck. The coach intervened not by giving answers, but by asking "Powerful Questions" (Socratic questioning) that stimulated critical thinking and helped students find their own voice. This process of "Reflexivity" ensures that students do not surrender their epistemic agency to the machine, maintaining their role as the central meaning-maker (Shivananda et al., 2024; van Veggel, 2025).

> *"Sometimes AI gave me too much information, and I got lost. I was stuck. The coach didn't give me the answer; she asked, 'What do you really want to say?' That simple question unlocked everything. AI fills pages; the coach clears the path." (Student 5)*

(Discussion) These findings strongly reaffirm the indispensable role of the human instructor in the AI era. As Natarajan et al. (2025) posit, while AI can augment human intelligence, it cannot replace the ethical judgment and interpersonal negotiation inherent in research supervision (Mormul et al., 2024). The ETHIC Model demonstrates that the most effective learning environment is one where technology handles the computational load—such as drafting and summarizing—allowing the human teacher to focus on mentorship and "Contextual Intelligence". The instructor shifts from a traditional lecturer to a "sense-maker" or "AI-Integrated Coach," ensuring that technical outputs are infused with human wisdom and scholarly integrity (Bagash et al., 2024; Nguyen et al., 2024).

5. Conclusion

The integration of Generative AI into research training is inevitable, yet it brings significant psychological and ethical challenges. This study explored the lived experiences of 13 graduate students navigating this transition under the "ETHIC Model". By focusing on the internal transformations of the researchers, this study concludes that while AI acts as a powerful "Engine," the human coach is the essential "Steering Wheel" that elevates the purpose and ensures the integrity of the research process.

5.1 Summary of Findings

The findings reveal that successful AI adoption is not merely a technical process but a deeply psychological and social one. The analysis identified three key transformative patterns that align with the core research objectives:

1) Transformation of Anxiety to Agency: The empathetic coaching process was crucial in shifting students' mindsets from a state of fear and "Writer's Block" to a sense of control and ownership (Creative Self-Efficacy). The "Engage" phase provided the psychological safety necessary for students to reframe AI as a collaborative partner rather than a threat to their intellectual identity.

2) Redefining Academic Integrity: Students moved beyond a binary view of ethics, adopting "Responsible Verification" behaviors. By engaging in the "Integrity Verification" process, students actively fact-checked and justified AI-generated content, thereby transforming potential plagiarism risks into opportunities for critical analysis and original synthesis.

3) The Irreplaceable Human Element: While AI served as a powerful cognitive partner, the human coach remained essential for emotional scaffolding, motivation, and unlocking critical thinking blockages. The study highlights that the human element is vital for providing the "contextual intelligence" and empathy that AI currently cannot replicate.

5.2 Pedagogical Implications

These results offer critical insights for educators and policymakers seeking to integrate GenAI responsibly. First, higher education institutions should move beyond teaching mere "prompt engineering" to prioritizing "Psychological Scaffolding" and "Human-in-the-loop" support systems. Curriculum designers must integrate emotional support mechanisms to help students cope with AI-induced anxiety. Second, ethics training must evolve from a prohibition-based approach to a "Process-Oriented Integrity" model. In this model, students are assessed not just on the final research proposal, but on their ability to critically verify, edit, and synthesize AI-generated content under ethical supervision. The ETHIC Model demonstrates that a "Human-in-the-loop" pedagogy is viable for maintaining academic rigor while harnessing the transformative efficiency of AI.

5.3 Limitations and Future Research

This study has limitations inherent to its qualitative and pre-experimental design. First, the sample was restricted to 13 graduate students in Education at a Thai university; thus, the findings may not be directly transferable to STEM fields or other cultural settings where attitudes toward technology may differ. Future research should conduct longitudinal studies to investigate the long-term retention of these ethical behaviors—specifically, whether students continue to verify AI outputs strictly when they are no longer under close supervision. Additionally, comparative studies using Quasi-experimental designs with control groups could provide further evidence on how different coaching styles support diverse learner needs in the AI-driven academic landscape.

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