

ChatGPT in Dissertation Writing: Balancing Innovation and Rigour

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Abstract: This study examines ChatGPT integration in master dissertation writing with a double impact: improving surface fluency at the expense of sacrificing critical thinking and intellectual honesty. By bringing together the voices of master's students and the experiences of their supervisors, it sheds new light on how ChatGPT is shaping dissertation writing. Grounded on mixed methods, this study sent out 210 questionnaires to Master's students and collected extended interviews with 12 academic supervisors from three Algerian universities. Introducing the concept of the Efficiency–Engagement Paradox as a novel lens, it highlights how ChatGPT simultaneously facilitates linguistic fluency while disrupting reflective engagement in graduate-level scholarship. Results show that 72% of the students find ChatGPT helpful for planning and coming up with ideas, but 64% expressed concern about a decline in critical thinking and reflective engagement, and 48% had no idea about AI policies at universities. Supervisors observed a decline in student autonomy, weaker reasoning skills, and a shift away from interactive, dialogue-based supervision. This research contributes an empirical and theoretical perspective by focusing on dissertation writing, a rarely studied context in AI literature, and recommends open AI policy, combining AI literacy education, and process regulation to facilitate ethical, critical, and pedagogically sound use of generative AI in universities.

Keywords: Academic integrity, Artificial intelligence, ChatGPT, Critical thinking, Dissertation writing

Résumé : Cette étude explore l'intégration de ChatGPT dans la rédaction des mémoires de master, mettant en évidence le Paradoxe Efficacité–Engagement : une amélioration de la fluidité linguistique au détriment de la réflexion critique et de l'autonomie intellectuelle. Basée sur une approche mixte (210 questionnaires auprès d'étudiants et 12 entretiens avec des encadreurs universitaires), elle révèle des bénéfices perçus pour la génération d'idées,

mais aussi des inquiétudes quant à la rigueur académique et l'absence de politiques claires. L'article apporte une contribution théorique et empirique rare sur la rédaction de mémoires et recommande des politiques explicites, une formation à la littérature en IA et un accompagnement pédagogique éthique.

Mots-clés : ChatGPT, intégrité académique, intelligence artificielle, pensée critique, rédaction de mémoire

1.Introduction

The rapid evolution of artificial intelligence (AI) has had a significant impact on academe, and generative AI tools like ChatGPT are increasingly integrated into research and writing practices. These technologies hold new promise for enhancing productivity, accessibility, and linguistic accuracy in academic work. Among scholars, particularly at the graduate level, ChatGPT is being used not only to assist with literature reviews, structuring arguments, and drafting sections of a dissertation, but also to reshape the very processes of scholarly inquiry and supervision. However, this growing use has sparked fierce controversy. While some view ChatGPT as a valuable learning assistant and facilitator of scholarly communication, others warn that it risks eroding foundational academic values such as originality, intellectual autonomy, and scholarly integrity. This study engages directly with that tension, focusing on master dissertation writing in the Global South and introducing the concept of the “Efficiency–Engagement Paradox” as a novel lens for examining how ChatGPT simultaneously enhances surface fluency and challenges deep cognitive engagement. The debate thus raises a serious question: Is ChatGPT an innovative co-author in a dissertation, or an unsettling presence that undermines the essence of rigorous scholarship?

This paper contributes a novel conceptual model, the Efficiency,Engagement Paradox, and an empirical focus on dissertation supervision, a largely under-researched domain in AI-in-education studies, and addresses the following objectives:

1. make a critique of ChatGPT's perceived strengths and limitations in academic research,
2. address the ethical implications of its use in writing dissertations, and
3. propose a model for its ethical and pedagogically wise use in higher education.

Three research questions that will guide this research are outlined below:

1. What is the perception of Master's students regarding the usefulness and range of ChatGPT in drafting dissertations?
2. What are the ethical concerns of using ChatGPT in scholarly research?
3. How can institutions develop guidelines to encourage the right use of generative AI while maintaining academic integrity?

2. Literature Review

2.1 Historical Context: Technological Evolution in Academia

The academy has evolved with the development of technology that facilitates knowledge creation, authentication, and dissemination. From the early tools as an illustration, the spell-checker and the grammar correctors, to plagiarism programs such as Turnitin, all these technologies basically faced resistance before becoming ingrained in education (Aoun, 2017; Dawson, 2023).

Such technology, now a recognized support mechanism in academia, opened the door to more sophisticated systems. The emergence of generative AI, e.g., models ChatGPT-4, is revolutionary "not only in aiding surface editing but writing large chunks of scholarly prose" (Cotton et al., 2023; Rudolph et al., 2023). Compared to earlier tools that correct spelling, generative AI dissolves traditional definitions of intellectual authorship by engaging in ideation and composition activities.

2.2 AI in Education: From Support to Co-authorship

AI has increasingly been integrated into learning spaces, especially in tertiary education. Recent studies point to its role in providing instant feedback, enhancing linguistic proficiency, and assisting writing activities—especially among multilingual learners (Holmes et al., 2022; Schmid et al., 2023). With the release of ChatGPT-4, new capabilities such as multimodal input, context memory, and persuasive output have extended its pedagogical potential (OpenAI, 2023). Kasneci et al. (2023) are of the view that the tools can promote creativity, reduce cognitive overload, and thus promote learner autonomy. Increasing concerns on such tools are obfuscating lines of authorship, reduced metacognitive effort, and excessive use by students of AI to generate content (Yeo et al., 2023; Luccioni & Viviano, 2023). These forces grapple with deep questions regarding the difference between co-authorship and support and whether AI facilitates deep learning or superficial competence.

2.3 Defining Academic Rigor in the Age of AI

Classical scholarship emphasizes depth of inquiry, reasonableness of argumentation, methodological humility, and originality (Brookhart, 2010). Generative AI has a paradox: it generates well-expressed and grammatically well-crafted words but tends to lack actual intellectual investigation or verifiable sequences of reasoning (Zhai, 2022; Clark et al., 2023). Some teachers think that AI can be used as a tool for deeper thinking, requiring students to pause and revise time and again (Heaven, 2023). Others argue that it will create scholarly copying, properly formed but shallow writing, evading intellectual combat typical of learning (Choi et al., 2023). That combat requires the reorganization of rigor in an AI-infested world of academe; master level is primarily concerned with critical synthesis and creativity.

2.4 Gaps in Literature

Despite a rise in scholarship on AI and education, most of it is still focused on K-12 instruction, elementary academic writing, or short classroom interventions (Dwivedi et al., 2023). One such gap is empirical studies on master-level writing, particularly dissertations and theses. There has been less research on the impact of AI on students' cognition, authorship development, or research ethics in longer scholarly writing. Apart from that, limited policy thought has been accorded to supervision and institution considerations in the context of adopting AI. More recent syntheses (Selwyn et al., 2023; Brockman et al., 2023) have demanded longitudinal research and comparative work to look into how AI applications like ChatGPT construct academic identity, epistemic responsibility, and supervisory relations. While several studies (e.g., Selwyn et al., 2023; Brockman et al., 2023) highlight AI's impact on higher education, few explore dissertation writing at the master's level through both student and supervisor perspectives. This study extends current literature by combining quantitative and qualitative insights to analyze authorship ethics, supervision dynamics, and institutional preparedness.

3. Theoretical Framework

3.1 Constructivism and AI-Mediated Learning

Constructivist perspectives of learning rooted in Piaget and Vygotsky argue that active participation, social construction, and situated sense-making must precede the construction of knowledge. Constructivist theory posits learning as an intellectual tension-generating, reflecting, and inquiry-based dialogical process. But the affordances of ChatGPT, credulous argument, immediate response, and

subtle expression, can short-circuit these processes by producing "answers" instead of struggle with them (Cuban, 2023; Al-Abdullatif et al., 2023). When learners rely on AI-produced content as an essential tool, they can miss out on the interesting experience of learning that constructivist pedagogy involves. This paper investigates learners' adoption of ChatGPT, evaluating how AI adoption influences students' metacognitive construction and autonomy.

3.2 Academic Integrity Models in the Era of AI

Models of academic integrity are based on values like honesty, accountability, and original authorship. Generative AI is particularly troublesome in the ability to produce very fluent text that can easily be presented as personal with minimal editing. As Bretag (2019) and Cotton et al. (2023) recently observe, this complicates identifying the traditional signs of authorship. AI systems can be used

as legitimate help when disclosed and contextualized, but with limitless bounds, they can be conduits for unforeseen plagiarism. Institutions should update policies concerning integrity to specify gray areas surrounding AI application and provide clear, actionable direction for students and teachers on ethical conduct. Transparency, tool documentation usage, and intercommunication among students and supervisors are necessary measures.

3.3. Artificial Intelligence and Academic Writing Ethics

Building on these frameworks, ethical concerns in AI-assisted academic writing are explored across three dimensions: transparency, accountability, and bias. There are multiple ethical concerns in generative AI. They are transparency (how the content is created), accountability (ownership of the content), and algorithmic bias (how training data influences outcomes). Binns (2018) and Bender et al. (2021) note that big language models are uninterpretable, and provenance of any output is hard to trace. In an education context, traceability, attribution, and originality are at issue, so such transparency is undesirable. Secondly, the work of ChatGPT can summarize ideas of widespread cultural or epistemological dominant prejudices, especially in global South or multilingual contexts. Ethical application of AI in writing dissertations should thus include algorithmic literacy, critical audit, and open attribution protocols to ensure scholarly integrity and intellectual development of the researcher (Binns 2018, Bender et al. 2021).

4. Research Methodology

4.1 Research Design

The study used a mixed-method approach with 210 Master Students and 12 academic supervisors at three Algerian universities. The sample included diverse disciplines (education, social sciences, engineering, law) to capture varying AI adoption practices. The participants were chosen purposively to represent disparate disciplinary backgrounds and AI uptake levels. The data collection instruments were a semi-structured questionnaire via 5-point Likert-scale questions and in-depth interviews with a thematic guide. Quantitative data were statistically processed through SPSS to generate descriptive statistics and Excel for correlation patterns, whereas qualitative answers were coded thematically. The Institutional Review Board granted ethical clearance, and informed consent was obtained from all participants.

This convergent design allowed the research team to collect and investigate quantitative usage patterns and qualitative understandings of cognitive, ethical, and pedagogical implications of AI tools like ChatGPT in master research writing.

4.2 Quantitative Component: Student Survey

210 master students representing a broad variety of disciplines were surveyed through a standardized Likert-scale questionnaire containing 25 items. Stratified sampling provided proportionate discipline and gender representation.

The survey addressed:

- Likert-scale items for assessing ChatGPT usage, academic integrity, and perceived cognitive effects.
- Multiple-choice items for assessing frequency and use of AI.
- Open questions for the students to give comments on risks and benefits.

The survey parts included:

- ChatGPT Usage Patterns: Frequency of use and main purposes (generating ideas, structuring arguments, synthesizing literature, grammar/language editing, full paragraph drafting, citation help).
- Perceived Benefits: Ratings of how ChatGPT helped with structuring arguments, improving writing fluency, generating research ideas, and synthesizing multiple sources.
- Ethical Awareness: Awareness of university policy on AI use and whether students have received any training or guidance.

- Cognitive Effort and AI Dependence: To what extent ChatGPT replaced reflection, synthesis, and argument development.
- Critical Thinking Skills: Perceived effectiveness of ChatGPT in supporting skills such as analyzing arguments, generating ideas, synthesizing sources, evaluating credibility, and structuring logic.

The pilot test was conducted on 20 students for the sake of ensuring internal consistency and clarity (Cronbach's $\alpha = 0.87$).

4.3 Qualitative Dimension: Semi-Structured Interviews

In addition to student survey outcomes, 12 semi-structured in-depth interviews were conducted among academic supervisors as a supplementary investigation. Participants were purposively chosen on the high supervision experience criterion and application of technological tools in academic writing.

The interview guide explored:

- Perceptions of the supervisors on how ChatGPT has influenced academic development.
- Development in student autonomy and critical thinking.
- Ethical and organizational challenges caused by AI use.
- Curriculum, supervision, and policy recommendations.
- Interviews lasted 30–45 minutes, were audio-recorded with permission from participants, transcribed, and stored securely.

Thematic coding produced three main themes with examples from instructors:

- Surface Fluency vs. Deep Reasoning – “Polished texts with no idea behind them.” (Instructor A)
- Lack of Institutional Clarity – “We have no real guidance on how to handle it.” (Instructor B)
- Changes in Supervision Dynamics – “They bring a clean final version, no process.” (Instructor C)

4.4 Data Analysis Procedures

Quantitative Analysis: Data were run in SPSS v26 for frequency counts, comparing means, and reliability checks. Excel was used to graphically plot trends

of correlation between variables such as the level of ChatGPT usage and its perceived impact on critical thinking or authorship concerns.

Qualitative Analysis: Transcripts from the interviews were examined with Braun and Clarke's (2006) thematic analysis framework. Codes were first created inductively and grouped into general themes.

4.5 Ethical Considerations

The study was approved by the Institutional Review Board of Amar Telidji University (Reference No. EDU-AI-2024-09). Informed consent explaining confidentiality, voluntary participation, and the right to withdraw at any time was provided by all students. Student names were anonymized, and supervisor names were pseudonymized. All data were encrypted and stored in secure university servers.

5.Main Results

5.1. Results of Students' Survey

- **ChatGPT Use Frequency**

Below is Table 1, showing the frequency with which Master's students utilize ChatGPT, and then Figure 1, a bar chart depicting that distribution.

The data demonstrate different degrees of ChatGPT usage by the 210 Master's students sampled. The most frequently reported category was "Weekly use", where 53 students responded that they use ChatGPT approximately once a week while writing their dissertation. This is followed by "Daily use", which suggests that a significant subset of students use ChatGPT as a standard tool. Others said they identified an "occasional use", with a small minority saying they "Never" employed the tool.

ChatGPT Use Frequency	Number of Students
Daily	52
Weekly	53
Occasionally	53
Never	52

Table 1. Frequency of ChatGPT Use Among Master's Students

These findings suggest that ChatGPT has taken up a routinised place within master research practice already. Its adoption as an accepted weekly or even daily scholarly tradition testifies to its perceived value. But the fact that there are non-users also suggests that there is a gap, perhaps on grounds of personal ethics, institutional regulation, or unfamiliarity with the tool.

- **Benefit of ChatGPT in Dissertation Writing**

Perceived Benefit Rating (1 = Low, 5 = High)	Number of Students
1 – Not beneficial at all	0
2	42
3	42
4	63
5 – Highly beneficial	63

Table 2. Perceived Benefit of ChatGPT in Dissertation Writing

Note: The Likert scale ranged from 1 (Not beneficial at all) to 5 (Highly beneficial).

Table 2 presents students' response to the usefulness of ChatGPT in writing dissertations using a 5-point Likert scale. From the data, there is a clear trend towards positive valuation: 63 students (30%) rated the usefulness as level 5 (high), and the sum of 63 (30%) rated it as level 4, thereby nearly two-thirds of the sample consider ChatGPT as a very useful tool.

On the other hand, only 42 students rated it level 3 or 2, and none of them rate it level 1, which suggests that few rate ChatGPT as of little or no value. This focus towards the higher end of the scale is clearly brought out in Figure 2, where the tallest bars correspond to ratings 4 and 5.

These findings suggest that most students appreciate the function of ChatGPT in their writing, including idea generation, elaboration, and structuring academic arguments.

Finally, the conclusions confirm positive attitudes of Master's students towards ChatGPT, depicting its growing use in academia and underscoring the need for guidance to enhance critical thinking and academic integrity.

- **Ethical Awareness**

Ethical Awareness Level	Number of Students
Aware	53

Partially Aware	53
Unaware	104

Table3.Ethical Awareness of AI Use in Dissertation Writing

The data in Table 3 and Figure show a concerning trend in the institutional ethics awareness of AI-powered writing students. 104 students (49.5%) reported that they did not know there was an official policy on the use of AI. Equal numbers of students were "aware" and "partially aware," with 53 students (25.2%) in each group.

To provide a numerical estimation of ethical awareness, responses were coded as follows:

- Unaware = 1
- Partially Aware = 2
- Aware = 3

On this scale, the mean level of ethical awareness was 1.76 and a standard deviation of 0.79. Which reveals that there is moderate variation in awareness across the sample.

These findings show an urgent institutional need for training and communication on ethical use of AI. With nearly half of the students still neglecting what is officially expected from them, universities risk promoting unwarranted misconduct. The findings warrant urging universities to promptly initiate awareness campaigns, harmonize guidelines on AI-generated work, and incorporate academic integrity topics in graduate research training.

• ChatGPT Replacing Cognitive Efforts

Response Category	Number of Students	Percentage (%)
Not at all	25	11.9%
To a small extent	40	19.0%
To a moderate extent	65	31.0%
To a large extent	55	26.2%
Completely	25	11.9%
Total	210	100%

Table 4. Perceived Replacement of Cognitive Effort by ChatGPT

To better understand the perspective of students on the cognitive and ethical dimensions of ChatGPT, students were asked to what extent ChatGPT had replaced their own intellectual effort—such as reflection, synthesis, and argumentation—when composing dissertations. The results showed subtlety of distribution: while 25 students (11.9%) indicated that ChatGPT replaced their intellectual work to some degree, a larger proportion—65 students (31%)—indicated moderate replacement, and 55 students (26.2%) indicated high replacement. Surprisingly, 25 students (11.9%) felt that their intellectual function had been fully replaced by the AI system, which indicates an alarming trend towards over-reliance. These findings support the teachers' concerns in the qualitative interviews in the next section regarding sacrificing deep engagement and reflective thinking.

• Critical Thinking Skills via AI

Critical Thinking Skill	Strongly Supported (%)	Moderately Supported (%)	Not Supported (%)
Analyzing arguments	18%	44%	38%
Generating ideas	32%	38%	30%
Synthesizing information	28%	41%	31%
Evaluating sources	22%	46%	32%
Structuring logic and coherence	26%	40%	34%

Table 5. Perceived Support for Critical Thinking Skills via ChatGPT

Table 5 shows students' views on how ChatGPT aids individual critical thinking (CT) skills in dissertation writing. From the results, "Generating ideas" was supported the most, and 32% of the students classified it as "strongly supported" . This is indicative of the fact that ChatGPT is most appreciated for inspiring brainstorming and breaking the block in writing. Similarly, "Synthesizing information" and "Structuring logic and coherence" also reached quite high total student support scores (69% and 66%, respectively), indicating that students find the tool useful for structuring ideas and connecting diverse sources. In contrast, more complex assessment skills such as "Analyzing arguments" and "Evaluating sources" were rated less frequently as strongly supported, with only

18% and 22%, respectively, identifying significant support for these. A significant majority of students (38% for argument analysis and 32% for source evaluation) reported that ChatGPT does not assist these higher-order thinking processes. This result indicates that students welcome ChatGPT assistance for more surface-level writing assignments but are uncertain it will be useful for deeper analytical and evaluative thinking, the skills of scholarly rigour; and hence the ChatGPT, according to them, is a supporting tool rather than a replacement for human reason and critical thinking skills in academic writing.

5.2. Correlation Between ChatGPT Usage Frequency and Perceived Impact on Critical Thinking

In a more detailed analysis of how frequency of use of ChatGPT is correlated with perceived impact on critical thinking, a Spearman's rank-order correlation was conducted. The research tested the correlation between two ordinal variables:

- the frequency of use of ChatGPT,
- perceived support for critical thinking skills when preparing a dissertation.

The results revealed a moderate negative correlation between these variables ($\rho = -0.42$, $p < .001$), suggesting that students who reported using ChatGPT more frequently were also more likely to report that it had decreased their critical thinking engagement. In contrast, the people who rarely or never utilized ChatGPT perceived it to be more unbiased or even pleasant towards critical thinking creation. Such an outcome resonates with what students said which testifies to concerns about overdependence on generative AI tools, possibly substituting in place of a more robust thought form.

Variable Pair	Spearman's ρ	p-value	Interpretation
ChatGPT Use Frequency × Perceived Impact on Critical Thinking Development	-0.42	< .001	Moderate negative correlation

Table 6 Correlation Between ChatGPT Use Frequency and Perceived Critical Thinking Impact

5.3. Qualitative Findings: Instructor Interviews

Thematic analysis of the semi-structured interviews with twelve university lecturers revealed three general themes pertaining to the influence of ChatGPT on

dissertation writing: (1) Superficial Learning and Overreliance, (2) Improved Language but Weak Argumentation, and (3) Institutional Guidance Needed.

- **Theme 1: Superficial Learning and Overreliance**

Several lecturers were perplexed that ChatGPT encourages surface learning rather than meaningful interaction with content. Talking about the risk of short-circuiting crucial thinking processes, they said:

Instructor E, Literature

- *"Students now arrive at supervision sessions with beautifully drafted scripts, yet they are unable to speak the rationale behind their own arguments."*

Instructor A, Humanities

- *"I read beautiful prose but empty logic. It's as if they have short-circuited the struggle that makes them strong thinkers."*

Instructor D, Social Sciences

- *"The theme talks about the risk of short-circuiting crucial thinking processes, those that are fundamental processes in higher education."*

- **Theme 2: Improved Language but Weak Argumentation**

While many instructors acknowledged that ChatGPT can help students improve grammar, coherence, and organization, they pointed out that it does not help with disciplinary depth and originality:

Instructor G, Civilisation

- *"The tool helps with fluency, especially for non-native speakers. But if I can make them tell me the reasoning, there's no foundation."*

Instructor F, Engineering

- *"There is a difference between thinking well and writing well. ChatGPT blurs that line."*

Instructor C, Education

- *"This conflict between analytic depth and linguistic eloquence was a persistent one."*

- **Theme 3: Institutional Guidance Needed**

Instructors called for stronger institutional guidelines and training of students and faculty in the pedagogical and ethical use of ChatGPT:

Instructor D, Social Sciences

- *"It's a grey area right now. It's cheating to some students, spell-check to others. We need certainty."*

Instructor B, Law

- *"We can't ban the tool, but we must teach students how to use it wisely, not foolishly."*

Instructor H, Business

- *"This is the refrain of developing AI literacy and academic honesty guidelines that consider the character of AI in the classroom."*

6. Discussion

6.1 The Efficiency–Engagement Paradox of ChatGPT Use

The findings reveal a paradox central to the issue: although ChatGPT enhances fluency, confidence, and writing ease, it risks disconnecting students from deeper intellectual work. Over 60% of the students rated ChatGPT very highly for support in structure and idea generation, consistent with earlier research (Kasneci et al., 2023). Nevertheless, teacher interviews described a long-term issue of students increasingly leaning on ChatGPT for intellectual scaffolding rather than developing independent reasoning, with one teacher describing "Students write neatly constructed drafts but are unable to discuss thought that has gone into arguments." The same accords with caution expressed by Selwyn (2019) regarding use of AI in order to farm out rather than prompt thinking.

6.2 Illusion of Rigor: Where Fluency Had Hidden Defective Reasoning

Although ChatGPT mimics scholarly writing exceptionally well, the output reflects an appearance–reality discrepancy. Although 63 students were assigned the maximum tool marks in usefulness, the majority found it not very useful when it came to source judgment or argument examination. This "illusion of rigor" is further found in Bretag's (2019) alert that misconduct by AI allows one to engage in well-worded text that holds no genuine thinking. What our findings show is that scholarly work masquerading as rigorous scholarship made possible by ChatGPT rings true but conceals not being scholarly effort.

6.3 Critical Thinking: Underpinned Superficially, Destroyed Structurally

Quantitative findings indicate that although students indicated that ChatGPT assisted with idea generation (70%) and synthesis (69%), 18% and 22% respectively believed it was helpful for argument analysis or source evaluation. This finding further reinforces concerns regarding superficial engagement.

Constructivist theories (Piaget, Vygotsky) suggest that critical learning arises out of mental conflict and social negotiation—lost when AI provides immediate answers. Teachers attested to this fear, reporting a breakdown in students' sense of ownership of ideas and reduced reflective practice.

6.4 Institutional Readiness and Ethical Blind Spots

Of particular concern is the lack of institutional preparedness. Nearly half of the students did not know about university AI policies, and lecturers were not professionally taught to use ChatGPT. This highlights Binns' (2018) argument that blind spots in using AI stem from systemic opacity. Without professional guidance, both students and lecturers are susceptible to nonsensical and unintentional mischief. As Holmes et al. (2022) underscore, embedding AI ethics in the policy and pedagogy of the university is a need today.

6.5 Verification and Elaboration of Existing Research

This study draws on earlier work by focusing on dissertation writing, a relatively under-researched field. While previous research (e.g., Luxton-Reilly et al., 2021) has focused on AI in undergraduate education, our results show that master education involves new at-stakes: originality, autonomy, and process integrity. Here, our research applauds Aoun's (2017) vision of "Robot-Proof" graduates who can apply critical use of technology without losing intellectual depth.

6.6 Reimagining AI's Role in Academic Writing

This study formalizes the *Efficiency–Engagement Paradox*, a theoretical contribution that illustrates how AI-driven fluency may obscure shallow reasoning in graduate-level writing. Instructor accounts are aimed not at ChatGPT prohibition, but at using it openly and critically. One supervisor described, "AI is here to stay. The question is how we teach students to think critically with it, not around it." ChatGPT would be used not as a ghostwriter, but as a reflective friend. Used dialogically—where students test, critique, and revise responses, it can support earlier drafting processes without compromising cognitive integrity.

6.7 Repositioning Supervision in the Age of AI

Generative AI subverts the traditional supervisor-student dynamic. Supervisors are now tasked with assessing not just output but process. Instructors in this study recorded less revision and poorer intellectual responsibility. To counter this, instructors need to shift toward process-based assessment, asking students to provide drafts, thinking journals, and decisions taken in order to reach a conclusion. Secondly, teacher training needs to include AI literacy and ethical judgment. Supervisors need to learn how to:

- Detect AI-generated patterns.
- Encourage meta-cognitive discussion.
- Make a clear distinction between legitimate use of AI assistance and misuse.
- Guide students in appropriately citing and reporting AI utilization.

Lastly, instructors need to be authorized not to police AI but to guide responsible and reflective usage. Institutional support, through policy, workshop, and inter-departmental collaborations, is needed to push models of mentorship ahead to confront the realities of generative AI.

7. Conclusion

This research advances the discourse on AI in higher education by introducing a conceptual model (Efficiency–Engagement Paradox) and a mixed-methods analysis of dissertation supervision, revealing an urgent need for critical AI literacy and institutional readiness. It foregrounds the double-edged character of ChatGPT in master research writing. It supports surface fluency but dissuades deep thinking. Institutional policy, supervisory practice, and curriculum design must evolve to enable ethical integration. Long-term effects on authorship and cognitive development must be tracked by future research.

This research explored the evolving role of ChatGPT in Master's students' dissertation writing practice, based on quantitative data alongside the qualitative insights of experienced academic supervisors. Drawing on both students' self-report data and the lived experience of academics engaging with this pedagogical innovation—similar to approaches reported by Kasneci et al. (2023) and Yeo et al. (2023), who examined AI's integration into higher education settings—this study offers a complex, dynamic picture of how generative AI is reshaping the cognitive, ethical, and relational dimensions of graduate research.

At first glance, ChatGPT was mostly considered as a helpful tool that improved efficiency, accessibility, and confidence, particularly for students who struggled with language or generating ideas. Interviewees noted improvements in fluency, better organization of arguments, and relief from writer's block. In this sense, it acted more as a supportive aid than a threat, assisting with the technical aspects of academic writing. However, a closer look showed widespread problems in teaching practices and knowledge-building approaches.

Supervisors continually discovered a lack of alignment between the formalistic rhetoric in students' writing and the quality of knowledge that underlay it. Students were often unable to explain or justify the ideas in their writing, showing a gap between the text they produced and their actual understanding.

The study also indicated a disturbing shortage of institutional preparedness and moral awareness. Nearly half of the students in the sample knew nothing about the policy for the use of AI on university academic work. The lecturers did not better, musing about the lack of training, policies, or institutional regulations. This pedagogical and regulatory vacuum leaves both the students and supervisors on tenuous ground, coping with unintended misbehavior and dissolving confidence in the scholarly process.

Furthermore, the supervisory relationship itself has altered. Instructors cited a shift from iterative, conversational interaction towards a more transactional relationship where AI-generated drafts replace collaborative revision. This elimination of process, rendering dialogue into automation, altered the traditional apprenticeship model of graduate scholarship, reducing possibilities for mentorship, feedback, and reflective development.

Despite these obstacles, this study does not call for the prohibition of AI in scholarly writing. In fact, it calls for rethinking academic practice in the age of AI. ChatGPT ought to be considered not only as a tool but as part of the teaching process, with new skills, clear guidelines, and policies that protect academic honesty while allowing for innovation.

In the long term, the issue is not on ChatGPT use, but on how effectively scholars and institutions prepare their academic communities to utilize it reflectively, ethically, and thoughtfully. It is essential that there is:

- Curriculum re-designs with AI literacy and critical thinking,
- Supervision models based on process transparency and intellectual accountability,

- Clearly established policies that distinguish between legitimate AI assistance and unethical authorship substitution
- And robust research infrastructures that monitor AI's evolving impact on academic development.

Though constrained by sample and reliance on self-reported data tied to a specific context, the results of this study offer a crucial starting point for future research. Cross-cultural and longitudinal studies are necessary in the future to quantify the ways in which AI reshapes authorship, learning, and research culture across disciplines. The stakes are high—but so too is the potential to build a strong, ethical, and forward-thinking academic ecosystem at a moment when human and machine authorship increasingly intersect.

8.Recomendations:

In view of the multidimensional character of ChatGPT's impact on writing and supervisory practice of students, this section offers multi-level recommendations covering policy, pedagogy, and professional development. It is not an attempt to ban the use of generative AI but to necessitate its incorporation to enhance, instead of destroying—critical thinking, academic honesty, and scholarly independence.

For Higher Education Institutions, it is crucial that there are strict and adaptive rules for the utilization of AI in academic work. The rules ought to outline the acceptable methods of AI assistance, e.g., grammar checking and organizing ideas, along with the methods that would constitute academic dishonesty, e.g., undisclosed content creation. Prior studies (Bretag, 2019; Cotton et al., 2023; Yeo et al., 2023) have emphasized that clear policies reduce misconduct and promote ethical awareness. To promote transparency, universities should make AI usage declarations a component of academic submissions so that students are able to disclose how and to what extent AI tools have been used in their work. Not only does this promote accountability, but it also protects students who use AI ethically. Institutions need to establish AI ethics task forces or faculty-sponsored committees. As Luccioni and Viviano (2023) have suggested, cross-disciplinary teams of educators, IT staff, and ethicists would be responsible for frequent monitoring of AI use and revising institutional policy to address challenges when they happen. Finally, universities must invest in continuous education through sessions in AI literacy and academic integrity education. Such programs must target faculty and students alike, offering them the tools with which they can use AI responsibly and critically.

For Supervisors and Research Advisors, a shift towards process-oriented supervision is recommended. Supervisors should request students to submit outlines, prompt logs, and reflective notes alongside final drafts. These products provide insight into the student's thinking process and aid in assessing the level of AI interaction. Supervision practice would also include metacognitive discussion

wherein students would be required to defend their reasoning and evidence choice. Questions such as "Why did you structure this argument in this way?" or "What caused you to select this source?" help distinguish genuine student knowledge from AI (Kasneci et al., 2023). Additionally, supervisors should establish early dialogue on the use of AI, as open communication has been shown to improve mutual expectations and reduce the risk of unethical use (Yeo et al., 2023).

Most importantly, supervisors should promote critical application of AI tools rather than passive dependence. Students should be motivated to use ChatGPT as a thinking partner, questioning its responses, testing their truth, and refining their own thinking in the process. For Curriculum Designers and Graduate Program Coordinators, integrating AI literacy into research training is also important. Special modules should be incorporated in methodology classes for students so that they understand how generative AI functions, including prompt engineering, risk of bias, and algorithmic trustworthiness limitations. Research by Holmes et al. (2022) and Selwyn et al. (2023) has shown that such training increases student agency and promotes ethical decision-making. Dissertation evaluation criteria should be revised to address these technologies. Rubrics must promote innovative thought, authentic source use, and persuasive argumentation over mere linguistic creativity. Optional reflective components can be incorporated, where students outline how AI tools were utilized and how they guided the development of ideas.

In addition, cross-disciplinary instructional materials must be developed, like case studies and ethical dilemmas, that can be tailored to the requirements of various study fields. These materials would help instructors and students equally in negotiating AI applications responsibly across disciplines. For Future Researchers and Policy Analysts, several areas of inquiry are fundamental to advancing the field. Longitudinal investigations should be performed to identify the effects of continuous AI usage on critical thinking, argument construction, and academic identity. Differences at a disciplinary level should also be explored when adopting AI, as tolerance towards its use varies widely between sciences and humanities (Dwivedi et al., 2023). Finally, future work should focus on designing and validating pedagogical models that responsibly integrate AI while preserving autonomy and ethical judgment. These models must clearly integrate AI tools into

the pedagogy process while still providing student autonomy, ethical judgment, and reflective practice (Kasneci et al., 2023; Luccioni & Viviano, 2023).

Those insights can then be used to guide scalable models of responsible AI adoption in higher education systems so that it serves as a catalyst for enhancing the way we teach, think, and produce knowledge in the 21st-century university.

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