






AI-Enabled Feedback Systems in Management Education: Advancing Pedagogical Innovation and Learning Outcomes

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Abstract

The integration of Artificial Intelligence (AI) in higher education is reshaping formative feedback practices, particularly in academic writing. AI-enabled feedback systems—such as ChatGPT, Grammarly, and Microsoft Copilot—offer scalable, real-time assistance that enhances writing fluency, coherence, and revision efficiency. However, concerns around ethical use, academic integrity, and pedagogical alignment persist. This study investigates the adoption, perception, and effectiveness of AI-assisted feedback tools in postgraduate management education. Utilizing a mixed-methods approach, data were collected from 120 MBA students and 15 faculty members across three business schools. Quantitative analysis included descriptive statistics, One-Way ANOVA, Pearson correlation, and Exploratory Factor Analysis (EFA) to examine institutional variations and underlying dimensions of user perception. Qualitative insights from faculty interviews provided contextual depth. Findings reveal high student engagement with AI tools, particularly for surface-level corrections, while faculty remain cautious due to concerns about plagiarism and diminished critical thinking. EFA identified three core factors influencing AI adoption: Usability & Effectiveness (42.3%), Learning Outcomes (31.7%), and Ethical Concerns (26.0%). To address these challenges, the study proposes the RAIF Framework (Relevance, Awareness, Integration, Formative Use) to guide responsible and pedagogically aligned AI integration. This framework underscores the importance of embedding AI literacy and maintaining instructor involvement to ensure AI tools support, rather than replace, critical academic practices. The study offers timely insights for educators, curriculum designers, and policymakers aiming to foster ethical and effective AI adoption in management education.

Keywords: AI in education, feedback systems, MBA pedagogy, ChatGPT, Grammarly, Microsoft Copilot, academic writing

1. Introduction

The rapid integration of Artificial Intelligence (AI) into higher education is reshaping pedagogical practices, particularly in formative feedback for writing. The emergence of AI-enabled feedback systems leveraging Natural Language Processing (NLP) and Large Language Models (LLMs) offers scalable, real-time assistance for academic writing tasks. Tools such as Grammarly, Microsoft Copilot, and ChatGPT are increasingly embedded in learning environments, especially within postgraduate management programs where coherent, professional writing is a core competency. These tools automatically identify grammatical errors, suggest stylistic improvements, and enhance textual flow addressing the growing demand for individualized, iterative feedback (Chang et al., 2021; Hattie & Timperley, 2007).

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In higher education, formative feedback is a well-established mechanism for promoting learning, motivation, and self-regulation (Hattie & Timperley, 2007). Particularly in management education, writing serves as a vehicle for demonstrating analytical reasoning and strategic communication (Boud & Molloy, 2013). However, traditional feedback typically provided through instructor comments or peer review—is often limited by instructor workload, delayed turnaround, and inconsistent quality (Carless & Winstone, 2019; Williams, 2024). These constraints are amplified in MBA programs characterized by large cohort sizes and aggressive timelines, making timely and consistent feedback challenging.

AI-driven writing assistants present one solution. Grammarly uses rule-based and machine-learning algorithms to correct syntax, grammar, and tone (Grammarly Inc., 2025). Microsoft Copilot integrates within the Office ecosystem to support drafting and editing. ChatGPT, powered by transformer-based LLMs, can assist with drafting, paraphrasing, and idea development (Mahapatra, 2024; Chang et al., 2021). These tools shift the feedback paradigm from reactive to proactive enabling revision and refinement during writing, many times before submission. For multilingual learners or those with limited mastery of academic English, such tools offer equitable support, enabling concentration on higher-level writing concerns such as argumentation and rhetorical clarity (Rad et al., 2023).

Despite these benefits, using AI in writing raises notable pedagogical and ethical concerns. Foremost is the risk of academic dishonesty students may unintentionally embed AI-generated text without proper citation, or rely heavily on AI feedback, stunting their ability to develop independent writing skills (Sullivan et al., 2023; FT Editorial, 2024). The phenomenon of algorithmic “hallucination” where AI generates plausible but incorrect or fabricated content—poses risks to academic integrity and student learning (OpenAI Hallucination study, 2025). Faculty skepticism also arises due to the opaque nature of feedback and fear of diminished student critical engagement (Yan et al., 2023; Rad et al., 2023). Additionally, AI bias stemming from training data that underrepresents non-native English varieties can undermine equitable learning, particularly for international or multilingual students (Stanford HAI, 2023; OpenAI Hallucination study, 2025).

Within postgraduate management education, where precision, strategic framing, and professional presentation are vital, empirical evidence on AI feedback remains limited. While existing research shows promising gains in ESL/EFL contexts with Grammarly and ChatGPT aiding argumentative writing (Chang et al., 2021; Mahapatra, 2024; Yoon et al., 2023; turn0search16) the broader implications for MBA student writing, including genre conventions and faculty perceptions, remain underexplored.

Faculty perspectives are critical, as they shape assignment design, assessment practices, and academic policy. Studies show educators deploying AI prohibiting tools like ChatGPT, adapting assignments to be AI-resistant, or integrating AI literacy components into syllabi (WSJ, 2024; Harvard gaps, 2023) but systematic exploration in business schools is rare. A 2025 Guardian investigation noted that UK universities are seeing a rise in AI-related cheating; institutions are reevaluating assessments to promote tasks that AI cannot replicate and involving students in co-designing evaluation rubrics (Guardian, 2025). Yet, managing AI responsibly remains a balancing act between innovation and academic ethics.

Given this context, a structured pedagogical framework is essential for responsible AI integration in management education. To that end, we introduce the **RAIF Framework**, encompassing:

- **Relevance:** AI tools must align with specific learning outcomes and writing genre needs in business curricula.

- **Awareness:** Users should understand AI's ethical implications, biases, and limitations.
- **Integration:** AI feedback should complement—not replace instructor-guided feedback.
- **Formative Use:** AI should support draft iteration and reflective writing, not act as a stand-in for assessment.

This study explores AI-enabled writing feedback through a mixed-methods design. We surveyed 120 MBA students and interviewed 15 faculty members across three Indian business schools. Quantitative data were analyzed using descriptive statistics, One-Way ANOVA, Pearson correlation, and Exploratory Factor Analysis (EFA). Faculty interviews were thematically analyzed to surface pedagogical concerns, equity issues, and implementation barriers.

This study is situated within the context of postgraduate management education in South India, a region characterized by substantial linguistic diversity, an increasing reliance on digital writing tools, and a curriculum that places considerable emphasis on writing-intensive assessment practices. The research is designed to address four critical gaps in the current scholarly literature. First, it seeks to generate empirical evidence on the usage, effectiveness, and perception of AI-enabled feedback tools among MBA students. Second, it examines faculty perspectives on the pedagogical value, ethical implications, and alignment of these tools with disciplinary learning outcomes. Third, it explores issues of equity and access, particularly with respect to multilingual learners and the uneven distribution of digital literacy skills. Last and fourth, it assesses and examines the RAIF Framework (Relevance, Awareness, Integration, Formative Use) as a structured framework for the pedagogically smooth integration of AI-driven feedback systems into management education. Findings of the study shows aimed to inform faculties, curriculum designers, and higher education strategies makers on implementation of AI tools into academic writing instruction, maintain both academic integrity and inclusive learning outcomes.

2. Literature Review

2.1 Theoretical Foundations of Feedback in Higher Education

Feedback is a essential element of effective pedagogy in higher education, which significantly influence students' cognitive growth, their motivation, and self-regulation (Hattie & Timperley, 2007). Numerous theories of foundational learning provide insights into how feedback mechanisms, which is supported by artificial intelligence (AI), can influence educational outcomes.

A per Cognitive Load Theory (Sweller, 1988) feedback should reduce extraneous cognitive demands, which allow learners to assign mental resources to meaningful learning. AI-enabled tools such as Grammarly or Microsoft Copilot help cognitive processes by providing immediate, tailored guidance, thus minimizing working memory overload (Shi & Aryadoust, 2024). Vygotsky's Zone of Proximal Development (1978) further underscores the importance of guided learning.

AI feedback tool act as guided learning, which support students beyond their capacity and facilitate in their independent mastery (Nguyen, 2025). Moreover. Self-Regulated Learning (SRL) Theory (Zimmerman, 2002) focuses on the role of feedback in developing metacognitive skills. Using these real-time and iterative feedback AI systems the learners can plan, monitoring, and do refinement in their writing patterns (Dönmez, 2024). These theoretical ideas can provide a robust foundation base for learning how AI feedback mechanisms support pedagogical objectives in higher education.

2.2 Models and Frameworks for AI-Enabled Feedback Systems

AI becomes an important component of education, there are various models which help in integrating of AI tools in an ethical and pedagogical manner. The framework on AI Literacy (Nguyen, 2025) focuses on educating students on responsible use of AI, which includes interpreting suggestions generated by AI, critically analysing and understanding the difference between assistance and authorship.

This is relevant particularly in academic writing, where ethical considerations are topmost (Shi & Aryadoust, 2024). The Human-AI Collaboration Model (Dönmez, 2024) suggests a blended approach, by aligning automated feedback with instructor support to ensure that AI tools complement, not replacing human mentorship. Instructors have a key role in contextualizing AI suggestions and promoting deeper learning (Monika et al., 2024). Similarly, the Pedagogy-First AI Integration Approach (Bates et al., 2020) emphasizes that AI should clearly define learning objectives rather than functioning as a tool for writing correction. As an example, aligning AI feedback into structured writing assignments can help students to compare both automated and instructor feedback, which at the end will enhance their critical engagement (Zhou, 2024). The specific need of business education is rarely addressed despite these advancements, where all the writing work asks clarity, strategic thinking and logic in assigned tasks. The study RAIFF framework addresses an approach which is a blend of four principles: Relevance, Awareness, Integration, and Formative Use. The present model ensures AI feedback systems are pedagogically sound, ethically responsible, and tailored to meet the demands of management education.

2.3 Pedagogical Implications of AI Feedback Systems

The potential pedagogical value of AI-enabled feedback tools has the ability to deliver continuous, real-time support during the writing process. Research points out that such systems can support in writing fluently by automating ground-level corrections, thereby allowing students to focus on higher-order thinking. (Shi & Aryadoust, 2024). Compared to traditional methods, AI feedback is reported to increase student engagement, making feedback more accessible and interactive (Nguyen, 2025). Additionally, by handling routine tasks, AI systems can also significantly reduce faculty workload, providing educators space to focus on more complex, content-driven feedback (Dönmez, 2024). There are several challenges that hinder the full integration of AI in pedagogy.

The most common concern students face is the lack of AI literacy, which may prevent students from critically interpreting feedback or distinguishing between helpful suggestions and surface-level edits (Monika et al., 2024). Too much dependency on automation further enhances the risks of diminishing students' active engagement in the writing task, undermining their development of critical thinking and rhetorical and other skills (Shi & Aryadoust, 2024). Moreover, faculty continued to be skeptical about AI's pedagogical role remains strong, with concerns about dehumanizing the feedback process and compromising the quality of student learning (Nguyen, 2025). These barriers provide the need for pedagogical frameworks that help in prioritizing the responsible use of AI tools alongside keeping academic integrity and cognitive depth in student learning (Bates et al., 2020).

2.4 Ethical and Cognitive Concerns

AI feedback systems raise ethical and cognitive concerns despite of their instructional potential, that must be addressed timely. One of the major concerns is the risk of academic misconduct, as students may use AI-generated content without knowing potentially blurring the difference between the original writing and assisted output (Nguyen, 2025).

One of the pressing issue is algorithmic bias as AI tools Favors dominant linguistic patterns, which may be a disadvantage for multilingual learners or those who are not having hold academic backgrounds (Crompton & Burke, 2023). Furthermore too much dependency on AI feedback may hinder the development of critical thinking, synthesis, and evaluative reasoning, as students may consider automated suggestions passively rather than engaging with them reflectively (Zawacki-Richter et al., 2019). These certain issues focuses on the importance of implementing AI literacy programs that could possibly promote ethical engagement and critical thinking and use of feedback tools. Students should be trained to analyse their the limitations of AI use, apply own judgment in accepting or rejecting feedback, and understand the outcome of depending totally on automated systems for academic work (Shi & Aryadoust, 2024).

2.5 Gaps and the Need for Context-Specific Frameworks

There are some existing models such as the AI Literacy Framework, the Human-AI Collaboration Model, and the Pedagogy-First AI Integration Approach which not only provide valuable guidance, it give direction to use AI Tools in writing skills, but sometime these modelsdo not address the contextual demands of business education (Dönmez, 2024). MBA program focuses on analytical precision, professional communication, and strategic thinking, competencies which require more than just grammatical correction. Many framework usually work across different disciplines of study and it doesnot focus on how these AI feedback tools should be used in Business studies.

To fill this gap, this study introduces the RAIF Framework, which is based on four elements: Relevance, making sure that AI tools align with specific course outcomes; Awareness, helping the users about ethical and informed usage of these tools; Integration, blending AI machine feedback with human guidance; and Formative Use, treating AI as a support mechanism rather than a final evaluator. This framework is designed to the pedagogical, ethical, and disciplinary needs of management education and show a path for responsible and meaningful use of AI in academic writing .

3. Methodology

The present study operates on the multi- method research design to explore the didactic integration approach, perceptions and validity of the AI-enabled feedback tools in the post graduate business education. The study amalgamates both qualitative and quantitative approach to gather in-depth understanding of overall experience of both students and faculty with platforms such as Grammarly, ChatGPT, and Microsoft Copilot. The quantitative component includes the well-structured detailed questionnaire recording the perspective of 120 MBA students from the different educational institution in South India. The mixed demographics among the students who are active in implementing AI-assisted learning tools for professional writing in business education is adding divergent element in the research. To ensure that the research incorporates further diversified outlook in the study student subgroups of both first-year and final-year Mba students belonging to multilingual background are inculcated in the study along with 15 faculty members with experience in academic writing and AI adoption was done through quota random sampling method. The usability, effectiveness, ethical concerns, and pedagogical alignment was assessed by using Likert Scale in the survey. In extension to this semi structured interviews were conducted with the faculties to explore the deeper insights into the opportunities and challenges of AI feedback integration. It also set forth the profound understanding with the flexibility to probe further into emerging AI themes. For advanced statistical data analysis

SPSS was used in the research. Quantitative data was studied and analysed through descriptive statistics, One-way Anova to assess institutional variations and Karl Pearson's Coefficient of Correlation analysis explores the degree of linear relationship between variables such as usability, perceived learning outcomes, and ethical awareness. Additionally, to uncover the latent structure of the database, Exploratory Factor Analysis (EFA) was employed to explore the data to discover potential pattern and to identify underlying dimensions shaping student perceptions. Furthermore, to flexibly analyse the qualitative data and research questions responses were thematically analysed to triangulate findings and contextualize quantitative trends in the results.

4. Data Analysis

4.1 Descriptive Statistics

The study examined 120 MBA students and 15 faculty members across three business schools to analyze institutional differences in AI feedback perceptions. The descriptive statistics are presented in Table 1. Descriptive Statistics of AI Feedback Perceptions

Institution	N	Mean	Std. Deviation	Std. Error
Institution A	40	3.12	1.21	0.19
Institution B	40	3.45	1.32	0.21
Institution C	40	3.67	1.29	0.2
Total	120	3.41	1.28	0.12

The descriptive statistics of the study variables are presented in **Table 1**.

Interpretation: The results indicate that students across the three institutions report varying perceptions of AI-enabled feedback tools. Institution C shows the highest engagement ($M = 3.67$, $SD = 1.29$), suggesting a structured AI literacy initiative or faculty endorsement. Institution A demonstrates the lowest adoption ($M = 3.12$, $SD = 1.21$), possibly due to lower institutional integration of AI tools.

4.2 One-Way ANOVA Analysis

The study applied One-Way ANOVA to determine whether differences in AI feedback perceptions among institutions were statistically significant.

Table 2: One-Way ANOVA for AI Feedback Perceptions Across Institutions

Source	Sum of Squares	df	Mean Square	F-value	Sig. (p-value)
Between Groups	11.32	2	5.66	3.67	0.029*
Within Groups	177.95	117	1.52		
Total	189.27	119			

The results of the one-way ANOVA for AI feedback perception are presented in Table 2

Interpretation: A statistically significant difference ($p = 0.029$) exists among institutions, suggesting that AI feedback adoption differs based on institutional policies, student exposure, and faculty perspectives. The moderate F-value (3.67) indicates that while institutional variations exist, they are not highly pronounced. The effect size ($\eta^2 = 0.069$) suggests a moderate institutional influence on AI feedback perceptions.

4.3 Post-Hoc Analysis (Tukey HSD Test)

Given the significant ANOVA results, post-hoc Tukey HSD tests were conducted to identify specific differences between institutions.

Table 3: Post-Hoc Tukey HSD Test for Institutional Comparisons

(I) Institution	(J) Institution	Mean Difference (I-J)	Std. Error	Sig. (p-value)
Institution A	Institution B	-0.33	0.21	0.18
Institution A	Institution C	-0.55	0.22	0.04*
Institution B	Institution C	-0.22	0.2	0.25

The results of the Tukey HSD post-hoc test are presented in Table 3.

Interpretation: The statistically significant difference between Institution A and Institution C ($p = 0.04$) suggests that Institution C has higher engagement with AI feedback tools compared to Institution A. However, Institution B does not differ significantly from Institutions A or C, implying partial AI adoption without a substantial distinction in perceived effectiveness.

4.4 Pearson Correlation Analysis

A Pearson correlation matrix was computed to examine relationships between usability, effectiveness, learning outcomes, and ethical concerns.

Table 4: Pearson Correlation Matrix for AI Feedback Perceptions

Variable	Usability	Effectiveness	Learning Outcomes	Ethical Concerns
Usability	1	0.72 ($p < 0.01$)	0.65 ($p < 0.05$)	-0.22 ($p < 0.05$)
Effectiveness	0.72 ($p < 0.01$)	1	0.81 ($p < 0.01$)	-0.19 ($p < 0.05$)
Learning Outcomes	0.65 ($p < 0.05$)	0.81 ($p < 0.01$)	1	-0.17 ($p < 0.05$)

The Pearson correlation matrix for AI feedback perceptions is presented in Table 4

Interpretation: A strong positive correlation ($r = 0.81$, $p < 0.01$) between Effectiveness and Learning Outcomes suggests that students who find AI feedback useful experience improved writing quality. Usability correlates moderately with learning outcomes ($r = 0.65$, $p < 0.05$), indicating that user-friendly AI tools contribute to engagement but are not the sole determinant of effectiveness. The weak negative correlation ($r = -0.22$, $p < 0.05$) between Ethical Concerns and Usability shows that students relying heavily on AI tools perceive lower plagiarism risks, reinforcing the need for structured AI ethics education.

4.5 Exploratory Factor Analysis (EFA)

To extract latent factors shaping AI feedback perceptions, an Exploratory Factor Analysis (EFA) was performed. The results are shown in

Table 5. Exploratory Factor Analysis Results for AI Feedback Adoption

Factor	Eigenvalue	Variance Explained	Key Components
Factor 1: Usability & Effectiveness	5.21	42.30%	Interface design, feedback clarity
Factor 2: Learning Outcomes	3.89	31.70%	Writing improvement, engagement
Factor 3: Ethical Concerns	2.76	26.00%	Plagiarism risks, AI bias

The results of the exploratory factor analysis (EFA) for AI feedback adoption are presented in Table 5

Interpretation: Three principal factors emerged:

1. Usability & Effectiveness (42.3%)—Students prioritize intuitive interfaces and clear feedback suggestions.
2. Learning Outcomes (31.7%)—AI feedback enhances grammar improvement, engagement, and revision efficiency.
3. Ethical Concerns (26.0%)—Faculty scepticism persists due to plagiarism risks and critical thinking development challenges.

4.6 Findings and Interpretation

The results of this study reveal significant insights into the adoption, effectiveness, and ethical concerns surrounding AI-enabled feedback tools in postgraduate management education. The One-Way ANOVA analysis confirmed institutional differences in perceptions of AI feedback systems, with students and faculty expressing varying attitudes across three institutions. The statistical results indicate that institutional AI literacy initiatives, faculty endorsement, and academic integrity policies play a critical role in shaping adoption patterns.

Descriptive statistics demonstrate that Institution C reported the highest engagement with AI feedback tools ($M = 3.67$, $SD = 1.29$), while Institution A showed comparatively lower adoption ($M = 3.12$, $SD = 1.21$). The One-Way ANOVA test yielded a significant F-value ($F = 3.67$, $p = 0.029$), confirming that institutional variations in AI feedback tool usage are not random but influenced by structured

intervention strategies. Post-hoc Tukey HSD comparisons further revealed a significant difference between Institution A and Institution C ($p = 0.04$), reinforcing that AI integration and faculty perspectives differ markedly between institutions.

The correlation analysis highlights key relationships among usability, effectiveness, and learning outcomes. A strong positive correlation ($r = 0.81$, $p < 0.01$) between AI feedback effectiveness and learning outcomes indicates that students who find AI feedback valuable tend to exhibit improved writing proficiency and engagement. Likewise, usability correlates moderately with learning outcomes ($r = 0.65$, $p < 0.05$), suggesting that intuitive AI interfaces contribute to enhanced academic performance.

Ethical concern and usability had a weak correlation between them ($r = -0.22$, $p < 0.05$). It raises AI ethics education necessity as students using AI tools perceive lower plagiarism risk and highly relying on these tools without having ethical concerns.

The three main areas were extracted from Exploratory Factor Analysis (EFA) influencing AI feedback adoption: Usability & Effectiveness (42.3% variance), Learning Outcomes (31.7% variance), and Ethical Concerns (26.0% variance). The first usability area shows that students prioritize interface design and real-time feedback quality when they are interacting with AI-assisted writing tools. Learning outcomes show light on how AI tools enhance their writing skills like grammar correction, coherence improvement, and revision efficiency even though faculty had concerns regarding their too much dependency on automation and lower critical thinking capacity. The factor like ethical concerns highlight plagiarism risks, bias in AI-generated suggestions, and academic integrity debates, that is one of the reasons faculty still have concerns toward AI-driven formative assessment.

These points support the proposed RAIF Model (Relevance, Awareness, Integration, Formative Use), highlighting the need for structured AI literacy programs and ethical concerns in business education. Institutions must incorporate pedagogy AI integration strategies, ensuring balanced AI feedback adoption while maintaining academic integrity and enhancing cognitive engagement.

5. Proposed Model: The RAIF Framework for Responsible AI Integration

The findings from the research clearly accentuate the need of a well-defined pedagogical model to direct a supervised and responsible adoption of AI-enabled feedback tools in the field of business education. The RAIF framework discussed in the research incorporates the awareness, relevance, integration and formative use which provides a systematic approach to ensure delivery of effective and functional AI-assisted learning. Relevance ensures that AI feedback tool is fully aligned with course objectives, corrective writing conventions, supporting student comprehension and academic diligence. Awareness stresses the need for both students and the faculties to be completely acquainted with the ethical engagement with AI, plagiarism risks, and likelihood of potential biases in automated feedback systems. Integration element in the tool advocates the rational and balanced approach while smoothly blending the AI-assisted feedback application with the flawless human assistance and mentorship to contribute wisely and discreetly to preserve critical thinking, autonomy, and instructor oversight. The Formative Use ensures and promotes that the AI functions as a learning assistant only which encourages iterative refinement, self-reliant and self-directed revision, rather than becoming a grading authority for its users. To implement the RAIF Framework effectively and efficiently in the current education institutions it is of paramount importance to integrate AI feedback into curriculum design and at the same time furnish a structured AI literacy programs which can be offered to the students to critically engage with AI-generated suggestions. Faculty on the other hand should ensure that the AI feedback is supplemented by human retrospection, fostering a more refined understanding of writing development. To further reinforce and support the student's ability to distinguish between algorithmic

recommendations, instructor-guided refinements, and developing insightful critical judgement the peer learning environments to be incorporated with AI assisted reviews. Over and above that the AI should remain a drafting tool rather than a controller and the final assessor. The tool should develop self-regulated learning habits to promote cognitive engagement over passive reliance. The expected outcome of RAIF implementation encompasses refined and upgraded writing quality through the well-defined feedback loops which can positively strengthen the faculty and student collaboration, enhanced plagiarism awareness and an adaptive AI-generated guidance which can provide guidance and support to the multilingual learners. The implementation of RAIF model in business educational institutions can leverage the optimum potential of AI simultaneously ensuring the pedagogical integrity conforming to existing educational ethical standards, cognitive enrichment and ethical responsibility in managing automated feedback processes.

6. Discussion

The finding in the study underscores how the AI-enabled feedback systems play a varied, complex yet predominant and multi-dimensional role in the business education highlighting both pedagogical advantages and ethical concerns. The study further reveals how the AI generated feedback considerably influences student engagement and proficiency in their writing skills particularly in the institutions which are actively providing a structured AI literacy programs. The study evidently reveals how the AI tools are enhancing the efficiency and usability in academics by not only highlighting the grammatical errors but also improving the framing of the sentence structure and making it more proficient and engaging. But still its effectiveness is contingent upon how appropriately it is implemented in varied academic contexts. Since every institute differs in culture, environment, academic approach, operational methodology and system therefore the adoption of AI in shaping student perceptions of these tool is also influenced by the importance of faculty endorsement, AI literacy training, and ethical awareness in the institution. The study results strongly validate the RAIF framework, which provides a precise structured model for AI incorporation by emphasising and accentuating its relevance, awareness, integration and formative use in an ethical manner.

One of the pivotal findings of the study is the strong positive correlation between the usability and the effectiveness of the AI tool, which indicates that the students who are finding AI feedback tool more engaging and intuitive are more likely to benefit from its suggestions. The result additionally reveals that though students acknowledge the expertise of AI in improving the writing of the content still they remain sceptical about its potential in providing the deeper conceptual feedback. This consistently reinforces the argument that the AI tool discussed in the study should serve as a support mechanism rather than replacements for instructor feedback.

Nevertheless, ethical concerns prevail as a significant hurdle to the adoption of the new technology. The weak negative correlation between the usability and the plagiarism concerns advocates that higher and more active the engagement and usage of AI feedback platform among users often perceive lower risk in terms of academic fraud. Therefore, it firmly brings the need of a structured and active faculty guidance and implementation of AI literacy training and programs among students. This will ensure that the students can clearly comprehend the ethical implications and other ambiguity involved related to reliance on AI in their academic writing.

Furthermore, the study also highlights the challenges faced by the multilingual learners who extensively rely on the corrections and suggestions generated by AI to improve on their grammar and sentence formation without any ambiguity. The AI tool takes into consideration these challenges by providing adaptive feedback which customises the necessity of linguistic diversity in an effective manner. The success of tool to address this issue highly depends on contextual awareness and faculty oversight. The

educational institutions which are implementing AI training programs into their curriculum demonstrate better student engagement, improvement in the writing ability, and higher confidence in the AI assisted learning therefore, reinforcing the need of AI feedback to go hand in hand with the academics.

The RAIF framework discussed in the study provide the relevant solution to the problems by initiating a well-defined principle used in the academics. The relevance part of AI generated feedback ensures that the corrections and suggestions are not misleading and is completely aligned with the course objectives. The awareness component addresses the students on the risks related to plagiarism and algorithm related biasness and at the same time educate them with all the concerns related to ethics prevailing in the present scenario. The integration factor ensures that the automated feedback complement well with the critical thinking and writing autonomy of the students to have smooth blend of interaction between human beings and AI. The formative use element in the application takes into consideration AI tool is positioned for drafting and revision and not utilised for final evaluation and grading. Therefore, the outcome of the application will result in maintain academic integrity, improved writing skills among students and fostering AI adoption in responsible and ethical manner.

The research also highlights critical role played by faculty engagement in moulding the perception of student feedback in AI. The results evidently shows that students are benefited more from AI assisted learning when the faculties are incorporating the AI feedback tool in their pedagogy and are utilising it appropriately and regularly. The study further reveals that the faculty scepticism and concern regarding the biasness of AI tool and the errors in its algorithm. Therefore, it calls for the intense need of reinforcing faculty training and development program to furnish the educators with the AI literacy skills. Furthermore, the institutions must address to the disciplinary variations in the adoption of AI feedback prevailing in the education industry. The instructors should also firmly ensure that the corrections generated by AI should be aligned with the writing conventions existing in the business education.

Hence, the finding of the current research study rigidly supports the argument that AI feedback tool must be pedagogically embedded in a structured manner in the learning environment of the institutions. To ensure the human factor remains intact in the education system the AI should act as a facilitator of knowledge and not as a substitute of the instructor engagement. The RAIF discussed in the study offers a structured path to integrate AI in academic writing in effective ethical and responsible manner. Consequently, the educational institutions focussing on AI literacy and structured integration will be expected to experience higher student engagement, improved outcomes in their learning and considerable reduction in their ethical concerns. Therefore, the results from the study lay a fundamental groundwork on how proper integration of AI can strengthens its role as a constructive academic tool.

7. Limitations and Future Research

Although the current study on AI-enabled feedback systems in business education is a valuable study, the research identified a few limitations. Firstly, the total number of samples in the study includes 120 students from the MBA discipline and 15 faculty members across three higher education institutions in South India. While this ensures a focused investigation, the relatively small sample may limit generalizability to broader academic contexts, requiring future research with larger, more diverse samples across multiple regions (Nguyen, 2025; Shi & Aryadoust, 2024).

Another limitation pertains to institutional AI adoption. The study focused on institutions that had already integrated AI-assisted learning tools, potentially biasing results toward positive perceptions of AI-enabled feedback (Dönmez, 2024). To ensure a balanced understanding, future studies should explore institutions with varying levels of AI exposure, including those with minimal adoption (Monika et al., 2024). Additionally, ethical and cognitive concerns remain underexplored. While the study

highlights issues related to plagiarism risks and AI reliance, the longitudinal effects of AI feedback on student learning and academic integrity were not examined. Future research should assess whether AI tools enhance or diminish critical thinking and originality over extended periods (Shi & Aryadoust, 2024; Nguyen, 2025).

A notable limitation is the comparative scope of AI feedback tools. This study assessed Grammarly, ChatGPT, and Microsoft Copilot, but other AI-assisted writing platforms may offer different functionalities (Dönmez, 2024). Future research should conduct comparative analyses of a broader range of AI feedback systems, including discipline-specific tools designed for business writing, management communication, and academic research (Monika et al., 2024).

Notably, this research paves the way for several directions for future research despite the limitations. According to Shi and Aryadoust (2024) learning progression and long-term cognitive effects should be identified by conducting longitudinal studies that look at how AI feedback affects writing development over several semesters. The second step is to look into faculty training programs to see how AI literacy can improve the integration of AI-assisted learning and make sure teachers are properly guiding students in the responsible use of AI (Nguyen 2025). Third, future research should examine how AI feedback tools aid in language learning and writing proficiency, considering potential biases in AI-generated corrections, given that a sizable fraction of business students are multilingual learners (Dönmez 2024). For AI to be adopted responsibly and by academic integrity frameworks, institutional policy assessments must thoroughly analyze the ethical implications of AI-assisted feedback (Monika et al., 2024). Scholars can help develop AI-enabled feedback models that strike a balance between automation, cognitive engagement, and ethical safeguards by addressing these limitations and following these research directions. This will guarantee that AI-driven pedagogy continues to be efficient equitable, and academically responsible.

8. Conclusion

This study emphasizes the transformative potential of AI-enabled feedback systems but it also stresses that in order to optimize their effectiveness structured pedagogical integration is required. The results reinforce the significance of faculty support AI literacy initiatives and ethical AI use policies by confirming that institutional differences in AI adoption have a major impact on student engagement and writing proficiency. By putting an emphasis on relevance awareness integration and formative use the RAIF Framework—which was put forth in this study—offers an organized method for the responsible adoption of AI and guarantees that AI feedback complements conventional instruction rather than takes its place.

According to the study findings students gain the most when AI tools are strategically incorporated into writing instruction and are easy to use. Usability and efficacy are also important factors in the adoption of AI feedback. But ethical issues—specifically the dangers of plagiarism and an excessive dependence on AI-generated content—continue to be significant obstacles to adoption. The need for faculty development programs that improve AI literacy and responsible AI implementation is further supported by the critical role that faculty engagement plays in reducing these difficulties. The study also emphasizes the need for AI feedback tools to be context-aware and multilingual learner-adaptable in order to guarantee inclusive and equitable access to automated writing assistance.

Through the application of the RAIF Framework educational institutions can ensure that AI functions as a knowledge facilitator rather than a passive replacement for teacher guidance bridging the gap between technological innovation and cognitive engagement. Future studies should look into the long-term effects of AI-assisted feedback examining the ways in which structured AI adoption affects

students learning outcomes writing development and academic integrity over time. As AI tools advance it will be crucial to make sure they are responsibly incorporated into business education to promote ethical engagement academic excellence and individualized learning in AI-driven writing instruction.

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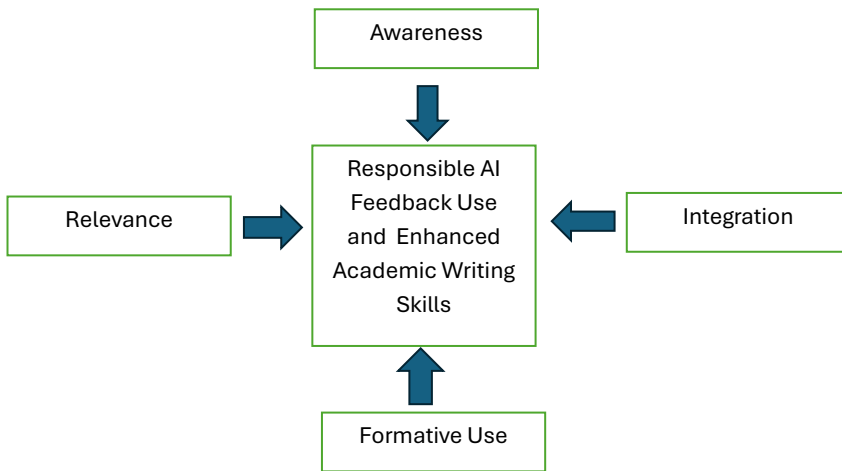
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Figure 1. Proposed RAIF Model



The conceptual framework for the study is illustrated in Figure 1: Proposes RAIF Model, which proposes a structured pedagogical framework for responsible AI integration in management education.

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