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Students' Writing Ability By Using Ai Generative Tools; Diffit, Brisk, Mendeley

*¹Yelliza, ²Siska, ³M. Khairi Ikhsan, ⁴Willy Satria

¹English Language Education, Faculty of Social Sciences and Humanities, Universitas PGRI Sumatera Barat, yelliza@upgrisba.ac.id

²English Language Education, Faculty of Social Sciences and Humanities, Universitas PGRI Sumatera Barat, siska@upgrisba.ac.id

³English Language Education, Faculty of Social Sciences and Humanities, Universitas PGRI Sumatera Barat, khairiikhsan@upgrisba.ac.id

⁴English Language Education, Faculty of Social Sciences and Humanities, Universitas PGRI Sumatera Barat, willysatria@upgrisba.ac.id

*Corresponding Author:

Yelliza

English Language Education, Faculty of Social Sciences and Humanities, Universitas PGRI Sumatera Barat, yelliza@upgrisba.ac.id

Abstract

This study examines the impact of three AI generative tools—Diffit, Brisk, and Mendeley—on university students' writing perceptions and motivation. A mixed-methods approach combined quantitative pretest and posttest assessments with qualitative insights from interviews and classroom observations. The participants, 27 students from Universitas Ekasakti Padang, were purposively sampled and randomly assigned to groups based on the AI tool used. Quantitative results revealed that the Diffit group achieved self-efficacy improvements from 80% (initial) to 90% (post-intervention), with a task value of 60%. The Brisk group showed consistently high self-efficacy (90%) and task value (90%), achieving an 80% writing proficiency score. In contrast, the Mendeley group recorded self-efficacy scores of 100% initially, dropping to 60%, but maintained a writing proficiency score of 80% due to a task value of 80%. Findings highlight self-efficacy as the most critical factor influencing writing improvement, supported by task value, intrinsic motivation, and perceived usefulness. Recommendations include integrating AI tools to build students' confidence, aligning tasks with personal goals, and fostering intrinsic motivation. This study demonstrates the effectiveness of AI tools in enhancing writing proficiency by addressing students' cognitive, emotional, and motivational needs.

Keywords: AI Generative, Writing ability, Diffit, Brisk, Mendeley

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I INTRODUCTION

The advent of generative artificial intelligence (AI) tools such as Diffit, Brisk, and Mendeley has revolutionized various educational practices, particularly in the realm of teaching writing. These tools utilize advanced algorithms to offer personalized, real-time feedback and content suggestions, enhancing both the quality and efficiency of the writing process (Barrett & Pack, 2023; Chan & Hu, 2023; Lee et al., 2024). As AI continues to evolve, its application in education has broadened, helping to bridge the gap between traditional teaching methods and the diverse needs of today's students (Bayly-Castaneda et al., 2024; Farrelly & Baker, 2023). In particular, these generative tools provide students with immediate assistance, offering resources and guidance that can be tailored to their unique learning styles (Chiu, 2024; Keser, 2024).

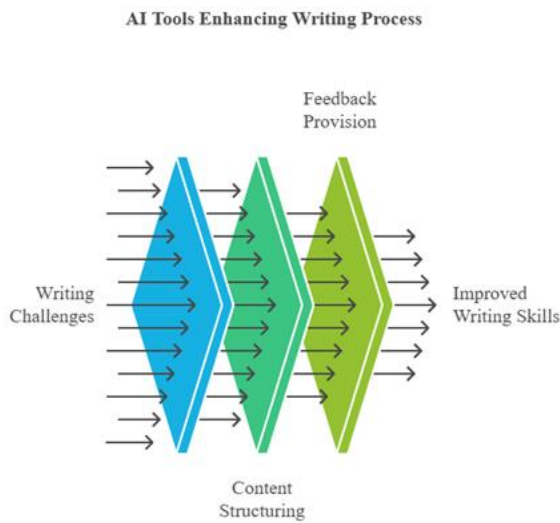
Furthermore, AI tools can empower students to become more self-sufficient writers by providing suggestions for improvement in areas such as grammar, structure, and content development. This study aims to explore the impact of these AI generative tools on students' writing abilities, focusing on their effectiveness in improving writing quality and fostering a more engaging learning experience (Luckin et al., 2022). The integration of AI tools has the potential to significantly reshape the way writing is taught, moving beyond traditional models to create more dynamic, student-centered approaches (Dodds & Fletcher, 2004).

Currently, many students face significant challenges in academic writing. These challenges often include difficulties in organizing ideas, maintaining coherence, and adhering to academic standards such as citation rules, which can hinder their ability to produce clear and structured essays (Bolton et al., 2023). Additionally, students often struggle with writer's block, a common issue that can lead to procrastination and reduced motivation, which further hampers their writing performance and academic progress (Huff, 2024). This lack of motivation is often compounded by the pressure to meet deadlines and produce work that meets stringent academic criteria. Moreover, students may feel disconnected from the writing process due to the lack of timely feedback and the perceived

isolation of their writing tasks (Clarke, 2006; Braun et al., 2015). The traditional methods of teaching writing, while effective to some extent, do not fully address these issues, leaving a gap in the support system available to students. In response, educators are increasingly turning to AI-driven tools to fill this gap, offering students more interactive and accessible means of improving their writing skills (Konstantinova et al., 2023).

The integration of AI generative tools like Diffit, Brisk, and Mendeley introduces new strategies for teaching writing that go beyond the limitations of traditional methods. Diffit, for instance, can generate diverse writing prompts and provide instant, constructive feedback, helping students overcome writer's block and boost their confidence in their writing abilities (Chan & Hu, 2023; Liao et al., 2023). By offering suggestions on structure and content, Diffit encourages students to expand their ideas and refine their arguments, making the writing process less daunting and more engaging. Similarly, Brisk offers structured templates and real-time suggestions that enhance the organization and coherence of students' essays, ensuring that their writing follows a logical progression and meets academic expectations (Hansen & Świdarska, 2023). This tool also facilitates collaboration and peer review, encouraging students to engage with each other's ideas and improve their writing through feedback. Mendeley, on the other hand, assists students in managing references and citations, ensuring that they adhere to academic standards and avoid plagiarism. By streamlining the research process, Mendeley allows students to focus more on content creation and analysis, rather than spending excessive time on formatting and citation management (Liu et al., 2023; Longoni et al., 2023). These tools collectively create a supportive environment that fosters continuous improvement, critical thinking, and active engagement in the writing

process.

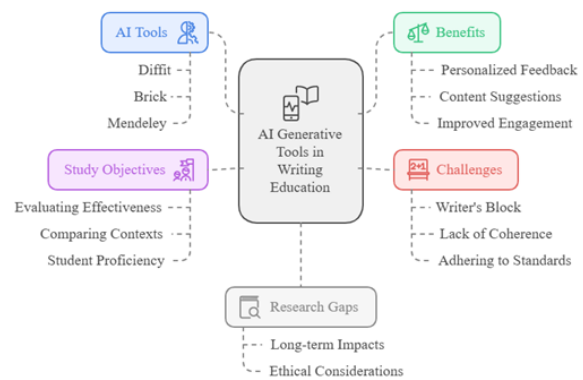


Despite the promising potential of AI generative tools, there is a notable gap in the research regarding their long-term impact on students' writing skills. While many studies focus on the immediate benefits of AI tools, such as improvements in writing quality and reduced time spent on revisions, fewer studies have examined how these tools contribute to students' long-term development as writers (Ivankova et al., 2006). Research that tracks student progress over extended periods is necessary to understand how sustained use of AI tools influences writing development, including areas like style, critical thinking, and the ability to independently revise and edit (Grotewold et al., 2023).

II RESEARCH METHOD

This study employed a mixed methods design to comprehensively examine the influence of three AI generative tools, Diffit, Brisk, and Mendeley, on students' perceptions of their writing abilities and motivation. The quantitative component involved pretest and posttest assessments using a structured questionnaire designed to measure key motivational constructs: self-efficacy, task value, intrinsic motivation, and perceived usefulness of the tools. Responses were collected using a 5-point Likert scale to quantify changes in students' attitudes and confidence levels. For the qualitative component, semi-structured interviews and classroom observations were conducted to gain deeper

Furthermore, there are important ethical considerations surrounding the use of AI tools in academic settings, such as concerns about data privacy and the potential for students to become overly reliant on these tools. Without careful oversight, there is a risk that students may use AI tools as crutches rather than as aids, potentially stunting their growth as independent thinkers and writers (Cotton et al., 2024; Farrelly & Baker, 2023). These concerns require further investigation to ensure that AI tools are integrated in a way that complements rather than replaces traditional learning methods, fostering the development of well-rounded writing skills (Chiu, 2023).



The formulation of this research is how do AI generative tools (Diffit, Brisk, Mendeley) influence students' perceptions of their writing abilities and their motivation to improve their writing skills in a classroom setting.

insights into students' cognitive, emotional, and motivational engagement with writing tasks facilitated by the AI tools. The integration of these methods allowed for triangulation, ensuring a robust analysis of the data. The population consisted of students at Universitas Ekasakti Padang, with 27 participants selected through purposive sampling. These students were randomly assigned into three groups, each representing one of the AI tools being tested. Diffit supported idea generation, Brisk focused on structural organization, and Mendeley emphasized citation management. The collected data were analyzed using descriptive and inferential statistics for the quantitative findings

and thematic analysis for the qualitative data. This methodological combination provided a holistic understanding of how the AI tools

influenced students' writing performance and motivation.

III RESULTS AND DISCUSSION

The Diffit Group



The Diffit Group's results indicate varying levels of self-efficacy and task value, correlating directly with writing proficiency. Notably, the self-efficacy scores—80% for Self-Efficacy 1 and 90% for Self-Efficacy 2—demonstrate that higher self-belief in one's writing capabilities positively impacts performance. Additionally, the task value score of 60% suggests that while the perceived importance of the task is moderate, it still significantly contributes to writing proficiency outcomes. This group underscores the importance of nurturing self-confidence among students, as it plays a pivotal role in their ability to produce high-quality writing.

The data also emphasizes the critical link between task value and motivation. Although the task value is lower compared to self-efficacy scores, it indicates that enhancing students' perceptions of task significance could further boost their writing proficiency. Strategies to achieve this might include aligning tasks with real-world applications or personal interests. Overall, the Diffit Group demonstrates that while self-efficacy is a dominant factor, task value cannot be overlooked in fostering comprehensive writing skills.

Brisk Group

In the Brisk Group, the results show a consistent relationship between self-efficacy and writing proficiency. Both Self-Efficacy 1 and Self-Efficacy 2 are recorded at 90%, reflecting a high level of confidence among the students. This strong self-belief translates into an 80% writing proficiency score, reinforcing the idea that students who trust in their abilities are more likely to perform well. The task value score of 90% further suggests that students in this group recognize the importance of the task, which

serves as an additional motivational factor enhancing their writing performance.

This group's data indicate that both self-efficacy and task value are significant predictors of writing proficiency. Therefore, educational interventions should focus on enhancing these aspects simultaneously. Encouraging intrinsic motivation through meaningful assignments and providing consistent positive reinforcement can help sustain high performance. The Brisk Group's results highlight that a balanced focus on self-efficacy and task value can lead to optimal outcomes in writing proficiency.



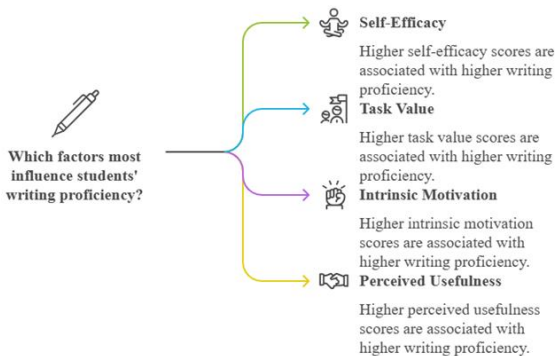
Mendeley Group

The Mendeley Group presents an interesting dynamic, with self-efficacy scores varying between 100% (Self-Efficacy 1) and 60% (Self-Efficacy 2). Despite this variation, the group achieves an 80% writing proficiency score, indicating that initial confidence might play a more critical role than sustained self-efficacy. The task value score of 80% suggests a strong understanding of the importance of the task, which supports consistent performance. This group's data imply that while self-efficacy is important, maintaining task relevance can stabilize writing outcomes even when confidence fluctuates.

Moreover, the disparity in self-efficacy scores highlights the potential impact of external factors, such as feedback or task complexity, on students' self-belief. Addressing these factors through structured support systems and targeted feedback can help sustain high self-efficacy levels. The Mendeley Group underscores the need for a holistic approach, integrating both psychological and contextual factors, to enhance students' writing proficiency effectively.



Key Influencing Factors



The overarching analysis of factors influencing students' writing proficiency reveals four primary determinants: self-efficacy, task value, intrinsic motivation, and perceived usefulness. Self-efficacy consistently emerges as the most influential factor, with higher scores

correlating with better writing performance. This suggests that building students' confidence through skill development and positive reinforcement is crucial for improving their writing outcomes. Task value, as demonstrated across all groups, also plays a significant role, indicating that students need to perceive writing tasks as valuable and relevant to their personal or academic goals.

Intrinsic motivation and perceived usefulness further complement self-efficacy and task value. Higher intrinsic motivation scores lead to greater engagement and sustained effort, while perceived usefulness ensures that students recognize the practical applications of their writing skills. Together, these factors form an interconnected framework, suggesting that educators should adopt a multifaceted approach to foster writing proficiency. By addressing these elements, institutions can create an environment that not only enhances writing skills but also promotes overall academic success.

IV CONCLUSION

This study demonstrates that self-efficacy, task value, intrinsic motivation, and perceived usefulness are critical factors influencing students' writing proficiency, with self-efficacy emerging as the most significant predictor across all groups. The Diffit group highlights the importance of fostering students' confidence, as higher self-efficacy correlates with improved performance, although task value remains moderate. The Brisk group underscores the combined impact of high self-efficacy and task value on writing success, suggesting that aligning tasks with students' interests and providing consistent positive reinforcement can sustain high proficiency. Meanwhile, the Mendeley group emphasizes the stabilizing effect

of task value on writing outcomes, even when self-efficacy fluctuates due to external factors like task complexity or feedback. Across all groups, intrinsic motivation and perceived usefulness complement self-efficacy and task value by encouraging deeper engagement and recognizing the practical benefits of writing tasks. These findings indicate that an integrative approach, addressing cognitive, emotional, and motivational dimensions, is essential for enhancing students' writing performance. Educators are encouraged to design interventions that build confidence, increase task relevance, and sustain intrinsic motivation, ensuring students not only improve their writing skills but also achieve broader academic success.

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