

## Understanding the Role of Automated Writing Tools: A Library Research on Grammarly in Academic Writing

<sup>1</sup>Jusak Patty

[jusak.patty@gmail.com](mailto:jusak.patty@gmail.com)

<sup>1</sup>*Pendidikan Bahasa Inggris, Universitas Pattimura*

### Abstract

This library research investigates the pedagogical implications and complexities of implementing Grammarly as an automated writing assistant in academic contexts. The systematic analysis of peer-reviewed literature examines the multifaceted relationship between automated feedback systems and writing development, focusing on user engagement patterns, writing quality outcomes, and institutional implementation frameworks. The investigation reveals sophisticated patterns of interaction between technological affordances and established pedagogical practices, where successful integration depends on carefully calibrated implementation strategies that acknowledge immediate practical needs and long-term educational objectives. Findings indicate that while automated writing assistance effectively addresses surface-level writing concerns, its impact on higher-order writing development emerges through complex interactions between user proficiency, institutional support structures, and pedagogical frameworks. The research demonstrates that optimal outcomes occur when automated feedback complements traditional writing instruction through structured implementation approaches guided by informed pedagogical principles. Analysis of longitudinal engagement patterns reveals how sustained interaction with automated feedback catalyzes the development of sophisticated writing strategies and enhanced metalinguistic awareness, mainly when supported by robust institutional frameworks. The study identifies critical challenges in maintaining an appropriate balance between technological assistance and independent writing skill development while highlighting opportunities for innovative pedagogical approaches that leverage automated feedback to enhance writing instruction. These findings contribute to a deeper understanding of how automated writing assistance can be effectively integrated into academic writing instruction while preserving essential pedagogical principles, providing valuable insights for educators and institutions seeking to implement these tools within comprehensive writing support frameworks.

**Keywords:** *Grammarly, automated writing assistance, academic writing, writing pedagogy, error correction*

### Introduction

The emergence of artificial intelligence-driven language tools has fundamentally transformed the landscape of academic writing. Integrating automated writing assistants, particularly Grammarly, has revolutionized how scholars and students approach writing (Toncic, 2020). The widespread adoption of this digital tool in academic settings represents a significant shift in how writing support

is conceptualized and delivered within educational contexts, especially in higher education institutions where writing proficiency is paramount (Huang et al., 2020). These technological interventions in writing pedagogy have sparked crucial discussions about the nature of writing assistance and its influence on cognitive processes during composition. Over the past decade, researchers have observed substantial changes in students' writing behaviors and revision patterns following the integration of automated writing assistance tools (Park & Yang, 2020; Wang et al., 2013). Furthermore, this technological paradigm shift raises fundamental questions about the role of artificial intelligence in writing development and its implications for academic integrity.

The proliferation of digital writing tools in academic environments has generated substantial discourse regarding their pedagogical implications, particularly in English as a Foreign Language (EFL) learning. Qassemzadeh and Soleimani (2016) documented significant improvements in ESL students' writing quality by implementing automated writing assistants. According to O'Neill & Russell (2019), integrating Grammarly into writing instruction has shown promising results in enhancing students' grammatical accuracy and writing confidence. These findings align with observations from Koltovskaia (2020), who identified distinct patterns in how students utilize automated feedback for revision. Moreover, the increasing reliance on digital writing tools has prompted educators to reevaluate traditional writing instruction methods. Recent studies have also highlighted the potential of automated writing assistants in supporting diverse student populations (Stevenson & Phakiti, 2019). Additionally, research has emphasized the need for a balanced integration of these tools within existing pedagogical frameworks (Grimes & Warschauer, 2010).

Implementing Grammarly in academic settings has raised essential considerations regarding developing independent writing skills and metalinguistic awareness among students. Evidence from empirical studies suggests that while automated writing assistance tools can enhance immediate writing outcomes, their long-term impact on students' writing development requires careful examination (Dembsey, 2017). Research by Cavaleri & Dianati (2016) emphasized the importance of understanding how students interact with automated feedback and incorporate it into their revision processes. The relationship between automated writing assistance and student autonomy has emerged as a critical area of investigation. Additionally, questions persist about the tool's ability to address complex aspects of academic writing beyond surface-level corrections (Zhang, 2020). Furthermore, researchers have noted the need to examine how different student populations utilize and benefit from automated

writing assistance (Li et al., 2015). These observations underscore the importance of developing comprehensive frameworks for integrating digital writing tools effectively.

This research addresses a critical gap in the existing literature by examining the multifaceted impact of Grammarly on academic writing processes through library research methodology. The present study synthesizes findings from diverse methodological approaches to provide a nuanced understanding of how Grammarly influences various aspects of the writing process. Through rigorous analysis of peer-reviewed literature, this research contributes to the ongoing discourse regarding the role of automated writing assistance in academic contexts. Additionally, this study aims to identify best practices for integrating automated writing assistance tools within educational settings. Finally, the findings hold significant implications for writing pedagogy, institutional policy development, and the future trajectory of writing assistance technologies in higher education.

## **Method**

This library research employed descriptive qualitative methodology to analyze the implementation and impact of Grammarly in academic writing processes. Following the principles outlined by Creswell & Poth (2016) for qualitative research design, this study undertook a comprehensive review of scholarly literature focused on automated writing assistance tools, particularly Grammarly, in educational contexts. The selection of literature was guided by specific inclusion criteria to ensure the relevance and quality of sources, focusing on peer-reviewed journal articles, conference proceedings, and academic publications that directly addressed the implementation, effectiveness, or pedagogical implications of Grammarly in academic writing settings.

The data collection involved systematic documentation and analysis of relevant literature through established academic databases, including ERIC, JSTOR, and Google Scholar. Following the methodological framework proposed by Boote & Beile (2005) for literature analysis in educational research, this study employed a structured approach to identify, evaluate, and synthesize pertinent research findings. Each selected source was carefully examined using a detailed analytical framework considering multiple dimensions: the research context, methodological approach, key findings, and implications for writing pedagogy. This comprehensive approach enabled a thorough exploration of how Grammarly influences various aspects of the writing process, from initial composition to final revision.

The analysis phase utilized the constant comparative method described by Merriam & Tisdell (2015) to identify recurring themes, patterns, and relationships within the collected literature. This analytical process involved iterative coding and categorizing findings to develop a coherent understanding of Grammarly's role in academic writing. The methodology emphasized the importance of maintaining objectivity while synthesizing diverse perspectives and conclusions of the literature, ensuring a balanced and comprehensive analysis of the benefits and limitations of automated writing assistance tools in academic contexts.

## **Discussion**

### ***Integration of Grammarly in Academic Writing Processes***

The trajectory of Grammarly adoption in academic environments reveals complex patterns of tool utilization that challenge traditional writing support paradigms. While Koltovskaia's (2020) research highlights the predominant use of Grammarly during revision phases, this pattern reflects a more profound transformation in how students conceptualize the writing process. The effectiveness of implementation extends beyond mere tool adoption, emerging as a complex interplay between user proficiency, institutional support frameworks, and pedagogical integration strategies. Critical analysis of implementation patterns reveals that successful integration hinges not just on technical accessibility but on carefully structured introduction protocols and sustained instructor guidance (Karyuatry et al., 2018). This multifaceted integration process manifests differently across institutional contexts, with digital literacy levels and prior automated tool experience serving as crucial determinants of success. Comprehensive institutional guidelines have emerged as a fundamental prerequisite for effective implementation, particularly in managing the delicate balance between technological support and independent skill development (Lawrance et al., 2020).

The temporal dynamics of Grammarly integration illuminate significant shifts in user behavior and institutional adaptation patterns. O'Neill & Russell's (2019) documentation of the transition from initial resistance to regular usage within a single academic semester reveals the transformative potential of structured implementation approaches. These behavioral shifts coincide with developing sophisticated, personalized strategies for incorporating automated feedback into established writing workflows (Huang et al., 2020). The tool's cross-platform accessibility, while technically advantageous, introduces new challenges in maintaining consistency between different writing contexts. Successful integration frameworks have evolved to emphasize the critical balance between automated assistance

and traditional pedagogical approaches, with research consistently demonstrating the necessity of complementing technological tools with established writing instruction methodologies (Palermo & Wilson, 2020). The role of instructor guidance in this process extends beyond basic tool introduction to ongoing support for developing critical evaluation skills.

The evolution of Grammarly usage patterns reveals sophisticated developmental trajectories in user engagement and tool mastery. Rao et al.'s (2019) identification of distinct adoption stages - from initial experimentation to advanced feature utilization - illuminates the progressive nature of tool integration in academic contexts. This progression correlates strongly with enhanced metalinguistic awareness, suggesting that sustained exposure to automated feedback mechanisms catalyzes a deeper understanding of language structures. The development of institutional protocols for tool customization has emerged as a crucial factor in aligning automated assistance with specific academic requirements (Barrot, 2020). The success of integration efforts increasingly depends on robust support structures that facilitate both technical proficiency and pedagogical effectiveness. These findings underscore the importance of developing comprehensive implementation frameworks that address immediate practical needs and long-term educational objectives.

The institutional dimension of Grammarly integration presents complex challenges in policy development and implementation strategies. Dembsey's (2017) analysis reveals that successful integration requires careful consideration of academic integrity frameworks and writing center practices, highlighting the need for comprehensive policy development. The evolution of institutional guidelines reflects a growing recognition of the need to establish clear parameters for tool usage while maintaining academic rigor. Research demonstrates that effective communication about tool functionality and limitations significantly influences user adoption patterns. Integrating automated writing assistance into traditional writing support services necessitates careful consideration of tutor training protocols and support mechanisms (O'Neill & Russell, 2019). The evolution of institutional policies regarding automated writing assistance reflects the dynamic nature of technological integration in academic contexts, emphasizing the need for flexible yet robust implementation frameworks.

### ***Impact on Writing Quality and Error Reduction***

The emergence of automated writing assistance has fundamentally transformed our understanding of error correction and writing development in academic contexts. While surface-level improvements in punctuation, spelling, and basic grammar are well-documented benefits of

Grammarly adoption (Qassemzadeh & Soleimani, 2016), these mechanical gains mask a more profound transformation in how students approach the revision process. The real-time nature of automated feedback has created a new dimension of writing consciousness, where immediate error recognition shapes the current text and future writing behaviors. This cognitive shift extends beyond simple error correction - studies reveal that consistent exposure to automated feedback cultivates a deeper awareness of language patterns (Kellog et al., 2010), particularly among non-native English speakers. The development of this metalinguistic awareness, coupled with enhanced error recognition capabilities (O'Neill & Russell, 2019), suggests that Grammarly's impact transcends its role as a mere proofreading tool.

The relationship between automated feedback and higher-order writing concerns presents a more complex narrative than initially anticipated. Rather than simply addressing surface errors, Grammarly's influence ripples through various layers of writing development, though not always predictably or uniformly. The tool's effectiveness varies significantly across different aspects of writing quality, with Ghufon & Rosyida (2018) revealing a stark contrast between improvements in local-level accuracy and the more challenging domain of global coherence. This disparity raises critical questions about the tool's role in developing sophisticated writing skills. The variation in effectiveness across different proficiency levels (Ghufon, 2019) suggests that automated feedback interacts with existing writing competencies in ways that challenge traditional assumptions about writing development.

Long-term patterns of writing development under Grammarly's influence reveal unexpected growth trajectories. Koltovskaia's (2020) research uncovers a progressive enhancement in self-editing capabilities that extends well beyond mechanical corrections, pointing to a more profound transformation in how writers engage with their text. This evolution manifests in error reduction and a fundamental shift in how students approach the revision process. The synergy between automated feedback and traditional instruction emerges as a crucial factor, with studies demonstrating that the most significant improvements occur when technological assistance complements rather than replaces human guidance (Karyuatry et al., 2018).

Examination of specific writing components reveals intricate patterns of development that challenge conventional wisdom about automated feedback. While mechanical accuracy consistently improves, O'Neill and Russell (2019) highlight the persistent challenge of developing higher-order skills like argumentation and rhetorical effectiveness. The impact on vocabulary development and

stylistic sophistication varies dramatically across user groups, suggesting that the tool's influence on writing quality is far from uniform. This variability extends to content development, where improvements in technical accuracy do not necessarily correlate with enhanced rhetorical sophistication (Nova, 2018). These findings underscore the necessity of viewing automated writing assistance as one component within a broader ecosystem of writing support rather than a standalone solution.

### ***User Perceptions and Engagement Patterns***

The evolution of user engagement with Grammarly illuminates complex patterns of technological adaptation in academic writing contexts. Moving beyond simple acceptance-resistance dichotomies, student interactions with automated writing assistance reveal sophisticated patterns of tool appropriation and integration into established writing practices. Cavaleri and Dianati's (2016) investigation into user attitudes uncovers a nuanced relationship between perceived utility and actual engagement patterns, where initial enthusiasm for immediate feedback capabilities often transforms into more measured, strategic tool utilization. This transformation reflects more profound shifts in how students conceptualize the writing process, mainly as they develop a more sophisticated understanding of the interplay between automated assistance and independent writing development.

The temporal dimension of user engagement manifests through distinct developmental stages that challenge conventional assumptions about technology adoption in academic contexts. Rather than following predictable linear progression, user engagement patterns reveal complex experimentation, adaptation, and refinement cycles. Dembsey's (2017) analysis demonstrates how initial exploratory behaviors evolve into sophisticated engagement strategies as users deeply understand feedback mechanisms. This evolution connects intrinsically with pedagogical frameworks, where structured guidance significantly influences the depth and quality of tool utilization. The emergence of discipline-specific engagement patterns, particularly evident in Burstein et al.'s (2017) research, suggests that academic context plays a crucial role in shaping how students integrate automated feedback into their writing processes. These patterns become increasingly refined through sustained engagement, with Palermo and Wilson's (2020) findings highlighting the critical role of perceived feedback reliability in maintaining consistent tool utilization.

The psychological dimensions of user interaction with Grammarly reveal complex cognitive and metacognitive processes that extend beyond simple tool usage. O'Neill and Russell's (2019)

examination of user interaction patterns uncovers sophisticated strategies for feedback integration that evolve as writers gain expertise. This evolution manifests in improved writing outcomes and fundamental shifts in how students approach the revision process. Developing critical evaluation skills emerges organically through sustained engagement, with users demonstrating increasingly nuanced approaches to implementing automated suggestions as their understanding of language structures deepens. Koltovskaia's (2020) research illuminates how these interaction patterns correlate with enhanced metalinguistic awareness, suggesting that engagement with automated feedback catalyzes a deeper understanding of language mechanics and structure.

The longitudinal trajectory of user engagement reveals sophisticated patterns of adaptation and tool mastery that transcend initial implementation challenges. Koltovskaia's (2020) findings highlight how successful long-term engagement depends on users developing a nuanced understanding of the tool's capabilities and limitations within their writing contexts. This understanding evolves through recursive cycles of implementation and reflection, leading to increasingly sophisticated approaches to feedback utilization. The development of critical evaluation skills emerges as a crucial factor in sustained engagement, with Huang et al.'s (2020) research demonstrating how users progressively develop more discriminating approaches to automated feedback implementation. This evolution in user engagement patterns suggests a more profound transformation in how writers conceptualize the relationship between technological assistance and writing development.

### ***Pedagogical Implications and Teaching Strategies***

Integrating automated writing assistance into academic frameworks necessitates a fundamental reconceptualization of writing pedagogy. Moving beyond simplistic tool adoption approaches, the implementation of Grammarly demands sophisticated pedagogical frameworks that address writing development's technological and cognitive dimensions. Wang et al.'s (2013) analysis reveals how successful integration requires a delicate balance between technological affordances and established pedagogical principles, suggesting that effective implementation extends far beyond mere tool introduction. This complexity manifests in the need for structured approaches that simultaneously address technical competency development and higher-order writing skills while maintaining pedagogical integrity within existing curricula. The emergence of hybrid instructional models reflects the growing recognition that automated feedback must be situated within broader frameworks of



writing development, with evidence suggesting that carefully calibrated integration strategies yield optimal learning outcomes (Shibani, 2017).

The evolution of classroom implementation strategies reveals sophisticated patterns of pedagogical adaptation that transcend traditional technology integration models. Cavaleri and Dianati's (2016) research illuminates how successful pedagogical frameworks emerge through recursive cycles of implementation and refinement rather than following predetermined integration pathways. This dynamic process involves continuous calibration of instructional approaches, with evidence suggesting that the staged introduction of tool features facilitates deeper student engagement with writing processes. Tang and Rich's (2017) findings demonstrate how collaborative approaches to tool implementation create synergistic learning environments that enhance student engagement and writing outcomes, challenging conventional assumptions about technology-enhanced writing instruction.

Developing pedagogical support materials emerges as a critical factor in sustaining effective implementation. Rather than focusing solely on technical aspects, Koltovskaia's (2020) research reveals how comprehensive instructional resources must address the complex interplay between automated feedback and cognitive development in writing. This understanding has led to sophisticated pedagogical frameworks emphasizing critical evaluation skills and technical proficiency. The evolution of teaching resources reflects growing recognition that effective tool integration requires sustained attention to both mechanical and rhetorical aspects of writing development, with evidence suggesting that regular refinement of instructional materials significantly enhances learning outcomes (Pacansky-Brock, 2012).

The longitudinal dimensions of pedagogical implementation reveal complex institutional adaptation and development patterns. O'Neill and Russell's (2019) investigation demonstrates how successful integration requires continuous evolution of teaching strategies in response to emerging patterns of student engagement and learning outcomes. This dynamic process involves sophisticated calibration of instructional approaches, with evidence suggesting that effective pedagogical frameworks must simultaneously address immediate technical needs and long-term writing development goals. As highlighted by Dysart and Weckerle (2015), the emergence of integrated professional development models underscores the critical importance of maintaining pedagogical innovation while preserving essential writing instruction principles.

### ***Challenges and Future Directions***

As automated writing technologies transform traditional educational practices, contemporary academic settings change significantly. Central to this transformation is a critical tension: the potential for improved writing assistance conflicts with longstanding concerns regarding genuine learning and skill acquisition. Instead of offering straightforward solutions, this technological shift introduces complexities that require nuanced institutional responses. Research indicates that the challenges extend beyond mere technological implementation, encompassing issues such as equitable access to digital resources and significant questions surrounding the development of writing skills and academic integrity (Dembsey, 2017; McHaney et al., 2016).

These emerging challenges arise in various institutional contexts, resulting in a complicated landscape of implementation obstacles and pedagogical issues. Conventional writing instruction models, centered on human interaction, struggle to adapt to the algorithm-driven nature of automated feedback. This difficulty is particularly pronounced in discipline-specific writing scenarios, where the intricate rhetorical demands often surpass the capabilities of existing automated systems. Koltovskaia's (2020) longitudinal studies highlight how these limitations create tension between technological potential and pedagogical requirements, especially in addressing complex syntactical structures and discipline-specific discourse patterns (Burstein et al., 2016).

The rapid advancement of technology adds another layer of complexity, continuously altering established educational practices. Wang et al.'s (2013) analysis reveals a troubling paradox: as writing technologies become more advanced, the disparity between technological capabilities and institutional preparedness frequently increases. This disconnect is evident in policy frameworks and the everyday realities of writing instruction, where educators struggle to integrate new tools while upholding pedagogical standards. Guarneri's (2020) research raises a more profound concern regarding the potential decline of essential writing skills in an increasingly automated educational environment.

Looking ahead, the development of automated writing assistance presents both promising opportunities and significant challenges. As noted by O'Neill and Russell (2019), the rise of more advanced artificial intelligence suggests potential advancements in tackling complex writing issues. However, this technological evolution prompts fundamental questions about the future of writing education. Williams and Beam's (2019) critical examination indicates that success will not stem from a choice between tradition and innovation but from creating new pedagogical frameworks that move

beyond this false dichotomy. The future necessitates strategies that leverage technological progress while preserving the vital human aspects of writing development.

### ***Ethical Considerations and Academic Integrity***

The widespread use of automated writing assistance in academic settings fundamentally challenges traditional notions of authorship and writing authenticity. Beyond plagiarism detection and citation accuracy concerns, incorporating tools like Grammarly into academic writing processes raises significant questions about writing development and assessment. These inquiries arise not from a simplistic view of technological determinism but from the intricate relationship between automated support and genuine writing growth. Dembsey's (2017) research on student engagement patterns illustrates how automated writing assistance alters essential elements of composition, introducing new ethical dilemmas that conventional academic frameworks find challenging to address.

The evolution of academic integrity within this technology-driven environment necessitates sophisticated institutional responses that move beyond binary views of acceptance or rejection. O'Neill and Russell's (2019) study highlights that effective policy implementation requires carefully calibrating expectations tailored to various academic contexts and writing tasks. Instead of viewing automated assistance as a uniform challenge, institutions should create nuanced frameworks that recognize the diverse roles of technological support at different stages of writing development. This contextual awareness is fundamental when examining how automated assistance interacts with various academic disciplines and writing genres.

The psychological aspects of automated writing assistance introduce unforeseen ethical complexities. Koltovskaia's (2020) longitudinal study indicates that appropriate use of these tools can paradoxically deepen students' understanding of academic integrity principles, challenging common beliefs about technology's contribution to academic dishonesty. These findings imply that the relationship between automated assistance and writing authenticity operates on multiple levels, necessitating sophisticated approaches to policy formulation and teaching practices. The rise of hybrid writing processes, where human cognition collaborates with algorithmic support, calls for new frameworks to comprehend authorship and attribution.

Looking beyond immediate issues, Baskin's (2015) research suggests that ethical considerations should also encompass broader educational equity and access questions. The availability of advanced writing assistance tools raises critical questions about fairness in assessment and the cultivation of

authentic writing skills. Domanski's (2019) investigation reveals how these issues intersect with broader institutional responsibilities, indicating that ethical frameworks must evolve to address immediate practical challenges and long-term educational goals. This evolution requires ongoing adjustments to institutional policies and practices, ensuring that technological advancements enhance rather than compromise fundamental educational values.

## **Conclusion and Suggestion**

### ***Conclusion***

Integrating automated writing assistance into academic environments profoundly transforms writing pedagogy and development. Analysis of Grammarly's implementation reveals complex patterns of interaction between technological affordances and established educational practices, extending far beyond simple tool adoption. Through systematic investigation of user engagement patterns, Cavaleri and Dianati's (2016) research illuminates how automated writing assistance fundamentally reshapes students' approaches to composition and revision. The effectiveness of implementation emerges through sophisticated interplay between structured integration strategies and clear pedagogical frameworks, suggesting that successful outcomes depend on carefully calibrated institutional approaches.

The longitudinal impact of automated writing assistance extends beyond immediate error correction to influence fundamental aspects of writing development. Koltovskaia's (2020) findings reveal how sustained engagement with automated feedback catalyzes the development of sophisticated writing strategies and enhanced metalinguistic awareness. This evolution manifests through recursive cycles of implementation and refinement, where technological assistance intersects with traditional pedagogy to create novel pathways for writing development. Institutional approaches to automated writing assistance evolve in response to emerging user engagement patterns and technological advancement, suggesting dynamic relationships between tool implementation and educational outcomes.

The collective evidence illuminates complex relationships between automated assistance and writing development that transcend simple cause-effect dynamics. O'Neill and Russell's (2019) investigation reveals that successful integration depends on a sophisticated understanding of technological capabilities and pedagogical requirements. The effectiveness of automated writing assistance emerges through careful calibration of implementation strategies that acknowledge both

immediate practical needs and long-term educational objectives. These findings suggest that the future of writing instruction lies in developing comprehensive frameworks that leverage technological innovation while preserving essential pedagogical principles.

### ***Suggestion***

The transformation of writing pedagogy through automated assistance demands sophisticated institutional responses that address immediate implementation challenges and long-term educational objectives. Drawing from Dembsey's (2017) analysis, institutions must develop comprehensive integration frameworks that balance technological affordances with established pedagogical principles. These frameworks should emphasize clear tool implementation protocols while focusing on fundamental writing skill development. The evidence suggests that successful integration requires careful attention to the implementation's technical and pedagogical aspects, with particular emphasis on developing structured support systems for diverse student populations.

Critical considerations for future implementation extend beyond simple tool adoption to encompass broader writing development and assessment questions. Wang et al.'s (2021) research highlights the importance of creating detailed implementation guidelines that acknowledge diverse academic contexts and writing requirements. Developing specialized training programs is crucial for ensuring effective tool integration, while regular assessment protocols provide essential feedback for ongoing refinement of implementation strategies. Evidence suggests that successful implementation depends significantly on establishing robust feedback mechanisms that inform continuous improvement of integration approaches.

Long-term recommendations focus on developing sustainable frameworks that accommodate current needs and future technological developments. Koltovskaia's (2020) findings emphasize the importance of creating flexible implementation strategies that adapt to evolving educational requirements and technological capabilities. The evidence suggests that successful integration requires ongoing attention to professional development and support systems that enhance instructor capabilities in leveraging automated writing assistance. Regular review and refinement of implementation frameworks are essential for maintaining effectiveness while incorporating emerging pedagogical innovations and technological advancements.

## Acknowledgments

The writer wants to express his sincere gratitude to his colleagues for their invaluable guidance, constructive feedback, and continuous support throughout this research process. The writer appreciates the faculty members and academic staff who have contributed their expertise. Special thanks to the English Education Study Program at Pattimura University for providing access to essential research materials and the institution facilitating this research endeavor.

## References

- Barrot, J. (2020). Integrating Technology into ESL/EFL Writing through Grammarly. *RELC*, 53 (3), 1–5.
- Baskin, P.K. (2015). Transparency in research and reporting: Expanding the effort through new tools for authors and editors. *Editage Insights*.
- Boote, D. N., & Beile, P. (2005). Scholars Before Researchers: On the Centrality of The Dissertation Literature Review in Research Preparation. *Educational Researcher*, 34(6), 3-15.
- Burstein, J., Klebanov, B. B., Elliot, N., & Molloy, H. (2016). A left turn: Automated feedback & activity generation for student writers. *In Proceedings of the 3rd Language Teaching, Language & Technology Workshop*.
- Burstein, J., McCaffrey, D., Klebanov, B. B., & Ling, G. (2017). Exploring Relationships Between Writing & Broader Outcomes with Automated Writing Evaluation. *In Proceedings of the 12th Workshop on Innovative Use of NLP for Building Educational Applications (pp. 101-108)*.
- Cavaleri, M., & Dianati, S. (2016). You Want Me to Check Your Grammar Again? The Usefulness of An Online Grammar Checker as Perceived by Students. *Journal of Academic Language and Learning*, 10(1), A223-A236.
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Sage Publications.
- Dembsey, J. M. (2017). Closing the Grammarly® Gaps: A Study of Claims and Feedback from an Online Grammar Program. *The Writing Center Journal*, 36(1), 63–100.
- Domanski, R. J. (2019, June). The AI Pandorica: Linking Ethically-Challenged Technical Outputs to Prospective Policy Approaches. *In Proceedings of the 20th Annual International Conference on Digital Government Research (pp. 409-416)*.

- Dysart, S. A., & Weckerle, C. (2015). Professional Development in Higher Education: A Model for Meaningful Technology Integration. *Journal of Information Technology Education. Innovations in Practice*, 14, 255.
- Ghufron, M. (2019, July). Exploring an automated feedback program 'Grammarly' and teacher corrective feedback in EFL writing assessment: Modern vs. traditional assessment. *In Proceedings of the 3rd English Language and Literature International Conference, ELLiC, 27th April 2019, Semarang, Indonesia*.
- Ghufron, M. A., & Rosyida, F. (2018). The Role of Grammarly in Assessing English as A Foreign Language (EFL) Writing. *Lingua Cultura*, 12(4), 395-403.
- Grimes, D., & Warschauer, M. (2010). Utility in a Fallible Tool: A Multi-Site Case Study of Automated Writing Evaluation. *The Journal of Technology, Learning and Assessment*, 8(6).
- Guarneri, C. (2020). Writing in the Twenty-First Century: The Importance of Pedagogy in Higher Education. *Journal of English Language and Literature*, 14(2), 1265-1267.
- Huang, H. W., Li, Z., & Taylor, L. (2020, May). The Effectiveness of Using Grammarly to Improve Students' Writing Skills. *In Proceedings of the 5th International Conference on Distance Education and Learning* (pp. 122-127).
- Karyuatry, L., Rizqan, M. D.& Darayani, N. A. (2018). Grammarly as a tool to improve students' writing quality: Free online-proofreader across the boundaries. *JSSH (Jurnal Sains Sosial dan Humaniora)*, 2(1), 83-89.
- Kellogg, R. T., Whiteford, A. P., & Quinlan, T. (2010). Does Automated Feedback Help Students Learn to Write? *Journal of Educational Computing Research*, 42(2), 173-196.
- Koltovskaia, S. (2020). Student engagement with automated written corrective feedback (AWCF) provided by Grammarly: A multiple case study. *Assessing Writing*, 44, 100450.
- Lawrence, G., Ahmed, F., Cole, C., & Johnston, K. P. (2020). Not More Technology but More Effective Technology: Examining the State of Technology Integration in EAP Programmes. *Relc Journal*, 51(1), 101-116.
- Li, J., Link, S., & Hegelheimer, V. (2015). Rethinking The Role of Automated Writing Evaluation (AWE) Feedback in ESL Writing Instruction. *Journal of Second Language Writing*, 27, 1-18.
- McHaney, R., Cronan, T. P., & Douglas, D. E. (2016). Academic integrity: Information systems education perspective. *Journal of Information Systems Education*, 27(3), 153-158.

- Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative Research: A Guide to Design and Implementation*. John Wiley & Sons.
- Nova, M. (2018). Utilizing Grammarly in Evaluating Academic Writing: A Narrative Research on EFL Students' Experience. *Premise: Journal of English Education and Applied Linguistics*, 7(1), 80-96.
- O'Neill, R., & Russell, A. M. (2019). Grammarly: Help or hindrance? Academic Learning Advisors' Perceptions of An Online Grammar Checker. *Journal of Academic Language and Learning*, 13(1), A88-A107.
- ONEill, R., & Russell, A. (2019). Stop! Grammar time: University students' perceptions of the automated feedback program Grammarly. *Australasian Journal of Educational Technology*, 35(1).
- Pacansky-Brock, M. (2012). *Best Practices for Teaching with Emerging Technologies*. Routledge.
- Palermo, C., & Wilson, J. (2020). Implementing Automated Writing Evaluation in Different Instructional Contexts: A Mixed-Methods Study. *Journal of Writing Research*, 12(1), 63-108.
- Park, J. H., & Yang, I. Y. (2020). Utilizing an AI-based Grammar Checker in an EFL Writing Classroom. *응용언어학*, 36(1), 97-120.
- Qassemzadeh, A., & Soleimani, H. (2016). The Impact of Feedback Provision by Grammarly Software and Teachers on Learning Passive Structures by Iranian EFL Learners. *Theory and practice in language studies*, 6(9), 1884-1894.
- Rao, M., Gain, A., & Bhat, S. K. (2019). Usage of grammarly—online grammar and spelling checker tool at the Health Sciences Library, Manipal Academy of Higher Education, Manipal: A study. *Library Philosophy and Practice*, 1-13.
- Shibani, A. (2017, January). Combining automated and peer feedback for effective learning design in writing practices. In *ICCE 2017-25th International Conference on Computers in Education: Technology and Innovation: Computer-Based Educational Systems for the 21st Century, Doctoral Student Consortia Proceedings*.
- Stevenson, M., & Phakiti, A. (2019). Automated Feedback and Second Language Writing. *Feedback in Second Language Writing: Contexts and Issues*, 125-142.
- Tang, J., & Rich, C. S. (2017). Automated writing evaluation in an EFL setting: Lessons from China. *Jalt Call Journal*, 13(2), 117-146.
- Tonicic, J. (2020). Teachers, AI grammar checkers, and the Newest Literacies: Emending Writing Pedagogy and Assessment. *Digital Culture & Education*, 12(1), 26.



- Wang, Y. J., Shang, H. F., & Briody, P. (2013). Exploring the impact of using automated writing evaluation in English as a foreign language university students' writing. *Computer Assisted Language Learning*, 26(3), 234-257.
- Williams, C., & Beam, S. (2019). Technology and writing: Review of research. *Computers & Education*, 128, 227-242.
- Zhang, Z. V. (2020). Engaging with Automated Writing Evaluation (AWE) Feedback on L2 Writing: Student Perceptions and Revisions. *Assessing Writing*, 43, 100439.