JURNAL KEPEMIMPINAN & PENGURUSAN SEKOLAH
Homepage : https://ejurnal.stkip-pessel.ac.id/index.php/kp
Email : jkps.stkippessel@gmail.com

p-ISSN : 2502-6445 ; e-ISSN : 2502-6437
Vol. 10, No. 5, October 2025
Page 3818-3824
© Author
Jurnal Kepemimpinan & Pengurusan Sekolah

ELECTRONIC FEEDBACK IN DIGITAL WRITING ENVIRONMENTS: A STUDY OF GOOGLE DOCS IN ACADEMIC WRITING INSTRUCTION

Amrizal[1], Nur Indah Ramadhani Nasution[2], Ummu Azizah[3], Aisyah Mutiara Sani[4], Tri Anggi Saputra Pulungan[5]
[1,2,3,4,5] Sekolah Tinggi Agama Islam Negeri Mandailing Natal, Indonesia

Email: indah05.1510@gmail.com

DOI: https://doi.org/10.34125/jkps.v11i5.2935

Sections Info
Article history:
Submitted: 9 August 2026
Final Revised: 28 August 2026
Accepted: 26 September 2026
Published: 28 October 2026
Keywords:
Academic Writing,
Collaborative Writing,
Digital Writing Environment,
Electronic Feedback,
Google Docs

ABSTRAK

The development of digital technology in higher education has significantly transformed academic writing practices. Google Docs has emerged as a widely used platform for collaborative writing, enabling real-time editing, commenting, and document sharing. This study aims to explore how Google Docs facilitates academic writing. A qualitative descriptive research design was employed, using three instruments: a writing test to assess students' performance, document analysis of collaborative writing activities, and semi-structured interviews to examine students' experiences. The data were analyzed through thematic analysis to identify patterns in collaboration and electronic feedback. The findings reveal that Google Docs enhances collaboration, promotes peer feedback, and supports the writing and revision process. However, limitations such as dependence on internet connectivity and limited formatting features for academic publishing were identified. Overall, the integration of Google Docs is considered an effective strategy for promoting collaborative learning and improving academic writing practices at the tertiary level.

ABSTRAK

Perkembangan teknologi digital di pendidikan tinggi telah secara signifikan mengubah praktik menulis akademik. Google Docs muncul sebagai platform yang banyak digunakan untuk menulis secara kolaboratif, memungkinkan penyuntingan, pemberian komentar, dan berbagi dokumen secara real-time. Penelitian ini bertujuan untuk mengeksplorasi bagaimana Google Docs memfasilitasi penulisan akademik. Desain penelitian deskriptif kualitatif digunakan, dengan tiga instrumen: tes menulis untuk menilai kinerja mahasiswa, analisis dokumen dari kegiatan menulis kolaboratif, dan wawancara semi-terstruktur untuk melihat pengalaman mahasiswa. Data dianalisis melalui analisis tematik untuk mengidentifikasi pola dalam kolaborasi dan umpan balik elektronik. Temuan menunjukkan bahwa Google Docs meningkatkan kolaborasi, mendorong umpan balik dari teman sebaya, dan mendukung proses menulis serta revisi. Namun, ada keterbatasan seperti ketergantungan pada koneksi internet dan fitur format yang terbatas untuk publikasi akademik. Secara keseluruhan, integrasi Google Docs dianggap sebagai strategi yang efektif untuk mendorong pembelajaran kolaboratif dan meningkatkan praktik menulis akademik di tingkat perguruan tinggi.

Kata kunci: *Menulis Akademik, Menulis Kolaboratif, Lingkungan Menulis Digital, Umpan Balik Elektronik, Google Docs*

INTRODUCTION

Digital technology has significantly reshaped various dimensions of education, particularly academic writing in higher education. In the past, academic writing was predominantly an individual endeavor, characterized by the use of traditional word-processing software that enabled solitary text composition. Over time, however, there has been a marked transition toward more collaborative and technology-enhanced environments for writing (Kessler, Bikowski, & Boggs, 2012; Li & Zhu, 2017). This evolution is underscored by the availability of advanced digital platforms that facilitate real-time collaboration among students and researchers. These platforms allow individuals to actively co-construct knowledge, share insights, and provide constructive feedback throughout the various stages of the writing process (Storch, 2013). Among the plethora of tools available, Google Docs has surfaced as one of the most popular and effective tools for collaborative academic writing. As a cloud-based word processing tool, Google Docs offers users an array of features that enhance the collaborative writing experience. It allows multiple users to edit documents simultaneously, enabling real-time contributions without the confusion of version control issues that often accompany traditional word processors. Additionally, users can leave comments directly within the document, making it easier to suggest changes or pose questions at specific points in the text.

The document revision history feature tracks all user changes, which is beneficial for both accountability and the review process, allowing contributors to revert to previous versions if necessary (Chu, Kennedy, & Mak, 2012; Zhou, Simpson, & Domizi, 2012). Furthermore, Google Docs automatically saves files online, ensuring that no work is lost and that collaborators can access the latest version of their document from any device with internet connectivity. These functionalities not only streamline the drafting process but also enhance the revising and editing phases, critical components of effective academic writing, by fostering an environment of continuous collaboration and interaction among writers. Through these collaborative tools, academic writing is becoming increasingly dynamic, inclusive, and reflective of collective scholarly discourse.

Numerous studies have highlighted the positive impact of collaborative writing on the enhancement of writing skills among learners. According to Storch (2013), the collaborative process encourages rich interaction and negotiation of meaning, which are crucial components in the learning experience. When students engage in collaborative writing, they are not just sharing ideas; they are also critically evaluating each other's contributions, thereby deepening their understanding of the writing process and improving their own skills. In addition to traditional collaboration, the integration of technology has revolutionized how students engage in group writing activities. A study by Chu et al. (2012) suggests that utilizing cloud-based tools significantly boosts student engagement and facilitates more effective communication among peers. These tools provide real-time collaboration opportunities, allowing students to edit, comment, and provide feedback instantly, which can lead to a more dynamic and interactive writing process. Furthermore, research conducted by Alsubaie and Ashuraidah (2017) reveals that students who utilize platforms like Google Docs experience a notable improvement in their writing performance when compared to those who rely on conventional methods. This study underscores the effectiveness of modern technologies in creating collaborative environments that empower students to take an active role in their learning journey, ultimately leading to enhanced writing outcomes.

In addition, electronic feedback plays a crucial role in improving writing quality. Ebadi and Rahimi (2017) found that online peer feedback enhances organization,

grammatical accuracy, and overall writing performance. Zhang and Zou (2020) also emphasize that technology-enhanced collaborative environments encourage active participation in revision and improve academic writing skills. Despite its increasing use, some aspects of Google Docs remain underexplored. Most prior studies focus on collaborative learning outcomes, with limited attention to its role in supporting the writing of scientific articles in higher education (Blau & Caspi, 2009; Woodrich & Fan, 2017). Furthermore, there is still a lack of comprehensive research examining both the benefits and limitations of Google Docs in academic writing contexts. Therefore, this study aims to address the following research question: To what extent does the use of Google Docs promote collaborative academic writing and influence students' writing performance in higher education? This study seeks to fill the gap by investigating the relationship between Google Docs, collaboration, electronic feedback, and writing revision strategies.

METHODOLOGY

This study employed a qualitative descriptive research design to explore students' experiences, perceptions, and interactions while using digital writing platforms. This approach was chosen to provide a deeper understanding of how collaborative tools support academic writing practices in educational contexts. The population consisted of university students enrolled in an academic writing course in the English Education program. Participants were selected through purposive sampling, focusing on students who had direct experience using Google Docs for collaborative writing tasks.

Data were collected using three instruments: a writing test, document analysis, and semi-structured interviews. The writing test was used to assess students' academic writing performance. Document analysis examined collaborative texts produced in Google Docs, including comments, editing history, and revisions. Interviews were conducted to explore students' perceptions and experiences with the platform. The data were analyzed using thematic analysis. The researcher coded the data into categories such as collaborative writing practices, electronic feedback, student engagement, and writing improvement, which were then interpreted in relation to relevant theories and previous studies.

RESULT AND DISCUSSION

The findings of this study highlight the crucial role of Google Docs in enhancing collaborative writing among university students. The platform's design facilitates real-time collaboration, allowing multiple students to work on the same document simultaneously. This feature not only enables them to edit text in unison but also provides a space for immediate feedback through comments and suggestions, creating an engaging and dynamic writing environment. This is a significant shift from traditional writing practices, where students typically work in isolation, leading to delays in receiving feedback and a more linear writing process (Storch, 2013; Zhou, Simpson, & Domizi, 2012). Moreover, a thorough analysis of students' writing tests and collaborative documents revealed notable enhancements in the overall quality of their writing. Students exhibited improvements in various areas, including better organization of their ideas, a marked reduction in grammatical errors, and a clearer articulation of their thoughts. These advancements can largely be attributed to the collaborative framework that Google Docs provides, which fosters continuous peer interaction, enables ongoing revision, and encourages constructive dialogue throughout the writing process (Kessler, Bikowski, & Boggs, 2012; Li & Zhu, 2017).

These findings align with Storch's (2013) theory, which posits that collaborative

writing not only facilitates the negotiation of meaning but also aids in the construction of shared knowledge among peers. The real-time capabilities of Google Docs create a platform where students can actively engage with one another, challenge each other's perspectives, and collectively improve their writing skills through feedback and peer support. This collaborative approach transforms the writing experience, making it more interactive and enriching for students.

Moreover, electronic feedback has emerged as a pivotal factor in significantly enhancing students' writing performance. The commenting and suggestion features in Google Docs enable immediate feedback from peers and instructors, fostering responsive communication. This real-time feedback mechanism enables students to quickly identify grammatical errors, improve their sentence structures, and refine their ideas throughout the crucial stages of drafting and revision. Such an approach not only facilitates learning but also aids in the development of writing skills over time. Notably, these findings echo the conclusions of previous studies that underline the effectiveness of online peer feedback in elevating the quality of writing (Ebadi & Rahimi, 2017; Zhang & Zou, 2020). In addition to the benefits of feedback, interview data collected from students further illuminated their perceptions of Google Docs as a highly effective and user-friendly platform for collaborative writing. Students articulated that the platform significantly streamlined communication, enabled efficient idea sharing, and fostered robust group collaboration without the need for physical meetings. This convenience is particularly valuable in today's fast-paced educational landscape, where students often juggle multiple commitments. The insights gathered are consistent with the research conducted by Chu, Kennedy, and Mak (2012) and Yim and Warschauer (2017), which indicated that cloud-based collaborative tools not only enhance student engagement but also promote meaningful interaction during writing activities. The ability to collaborate in real-time supports a richer learning experience, where students can collectively contribute to and enhance the writing process.

While Google Docs offers several advantages as a collaborative writing tool, various limitations have been identified that warrant attention. A significant challenge is the reliance on stable internet connectivity, which can hinder students' ability to fully engage in collaborative tasks. Without reliable internet access, students may experience interruptions that disrupt real-time collaboration, leading to frustration and reduced productivity.

Moreover, some users have reported difficulties with the advanced formatting features sometimes necessary for academic publishing. These challenges can impede their ability to present their work professionally, which is essential in academic settings. These experiences align with observations made by Blau and Caspi (2009) and Woodrich and Fan (2017), who emphasized that technical glitches and usability challenges can detract from the overall effectiveness of collaborative writing tools. Despite these issues, the findings indicate that Google Docs holds considerable promise for facilitating collaborative academic writing. It encourages interaction among users, streamlines the process of providing and receiving electronic feedback, and enhances revision practices. Such capabilities can foster a more dynamic and productive collaborative writing environment.

These results echo prior research highlighting the potential of digital collaborative platforms to improve writing skills and encourage collaborative learning in higher education. Notable studies, such as those conducted by Warschauer (2010) and Li & Zhu (2017), further underscore the importance of integrating technology in educational contexts to achieve better learning outcomes. Overall, while there are some barriers to overcome, the potential benefits of using Google Docs for collaborative writing in academic settings make it a valuable tool

worth further exploration and refinement

CONCLUSION AND SUGGESTIONS

Conclusion

This study concludes that Google Docs plays a significant role in enhancing collaborative academic writing in higher education. The platform facilitates real-time collaboration, enabling students to edit, comment, and provide feedback simultaneously. This interactive environment encourages active participation, supports peer learning, and improves the overall writing process. The findings reveal that students demonstrate noticeable improvements in writing quality, including better organization, reduced grammatical errors, and clearer expression of ideas.

Furthermore, electronic feedback provided through Google Docs contributes significantly to writing development, as students receive immediate input from peers and instructors during drafting and revision stages. These findings are consistent with previous studies emphasizing the effectiveness of collaborative writing and technology-enhanced feedback in improving academic writing skills.

However, some limitations were identified, particularly the dependence on stable internet connectivity and challenges in handling advanced formatting for academic publishing. Despite these constraints, Google Docs remains a valuable tool for promoting collaborative learning and improving writing practices in higher education.

Suggestions

Based on the findings, several recommendations are proposed. First, educators are encouraged to integrate Google Docs into academic writing instruction to promote collaboration, peer feedback, and student engagement. Second, institutions should provide adequate technological support, including stable internet access, to ensure effective implementation of digital collaborative tools.

Third, students should be trained in using Google Docs features more effectively, particularly in providing constructive feedback and managing revisions. Additionally, future research is recommended to explore the use of Google Docs in more advanced academic writing contexts, such as scientific article writing and publication processes. Researchers may also examine its integration with other digital tools to overcome formatting limitations and enhance usability.

Overall, the integration of collaborative digital platforms should be continuously developed to support more effective, interactive, and student-centered academic writing practices.

REFERENCES

Alsubaie, J., & Ashuraidah, A. (2022). The impact of collaborative writing using Google Docs on EFL students' writing performance. International Journal of Emerging Technologies in Learning, 17(8), 120–134. https://doi.org/10.3991/ijet.v17i08.29867

Blau, I., & Caspi, A. (2009). What type of collaboration helps? Psychological ownership, perceived learning, and outcome quality of collaboration using Google Docs. Computers in Human Behavior, 25(5), 1184–1191. https://doi.org/10.1016/j.chb.2009.06.002

Blau, I., & Caspi, A. (2009). What type of collaboration helps? Psychological ownership, perceived learning, and outcome quality. *Journal of Educational Computing Research*, 41(2), 223–243. https://doi.org/10.2190/EC.41.2.e

Chu, S. K. W., Kennedy, D. M., & Mak, M. Y. (2012). MediaWiki and Google Docs as

collaborative tools in education. *Computers & Education*, 59(2), 561–571. https://doi.org/10.1016/j.compedu.2012.03.002

Chu, S. K. W., Kennedy, D. M., & Mak, S. S. T. (2021). Collaborative writing with cloud-based tools in higher education: Students' perceptions and learning experiences. Computers & Education, 170, 104226. https://doi.org/10.1016/j.compedu.2021.104226

Ducate, L., Anderson, L., & Moreno, N. (2011). Writing with wikis: Collaborative writing in the foreign language classroom. Journal of Second Language Writing, 20(1), 10–25. https://doi.org/10.1016/j.jslw.2010.11.002

Ebadi, S., & Rahimi, M. (2017). Exploring the impact of online peer feedback on EFL learners' writing performance. Computer Assisted Language Learning, 30(1–2), 1–20. https://doi.org/10.1080/09588221.2016.1248872

Ebadi, S., & Rahimi, M. (2017). Exploring the impact of online peer feedback on EFL learners' writing quality. *Computer Assisted Language Learning*, 30(6), 521–543. https://doi.org/10.1080/09588221.2017.1308389

Elola, I., & Oskoz, A. (2010). Collaborative writing: Fostering foreign language and writing conventions. *Language Learning & Technology*, 14(3), 51–71. (No DOI available)

Ferris, D. (2014). *Treatment of Error in Second Language Student Writing* (2nd ed.). University of Michigan Press. https://doi.org/10.3998/mpub.2173293

Hsu, H. (2019). The effect of collaborative writing on EFL students' writing performance using Google Docs. Computer Assisted Language Learning. https://doi.org/10.1080/09588221.2018.1540432

Hyland, K. (2016). *Teaching and Researching Writing* (3rd ed.). Routledge. https://doi.org/10.4324/9781315719818

Kessler, G., Bikowski, D., & Boggs, J. (2012). Collaborative writing among second language learners in academic contexts. Language Learning & Technology, 16(1), 91–109. https://doi.org/10.1016/j.system.2012.03.002

Kessler, G., Bikowski, D., & Boggs, J. (2012). Collaborative writing among second language learners. *Language Learning & Technology*, 16(1), 91–109.

Kukulska-Hulme, A. (2020). Technology-enhanced language learning and digital tools in education. Computers & Education, 151, 103926. https://doi.org/10.1016/j.compedu.2020.103926

Li, M. (2023). Digital collaborative writing in higher education: Exploring students' engagement and interaction through online platforms. System, 114, 102995. https://doi.org/10.1016/j.system.2023.102995

Li, M., & Zhu, W. (2017). Good or bad collaborative writing? Exploring effects of task type and group type. *Journal of Second Language Writing*, 38, 1–17. https://doi.org/10.1016/j.jslw.2017.08.003

Li, M., & Zhu, W. (2017). Good or bad collaborative writing? *Journal of Second Language Writing*, 38, 1–17. https://doi.org/10.1016/j.jslw.2017.08.003

Storch, N. (2013). *Collaborative Writing in L2 Classrooms*. Multilingual Matters. https://doi.org/10.21832/9781847699954

Storch, N. (2013). *Collaborative writing in L2 classrooms*. Multilingual Matters. https://doi.org/10.21832/9781847699954

Storch, N. (2021). Collaborative writing in L2 classrooms: Opportunities and challenges in digital environments. Journal of Second Language Writing, 52, 100809. https://doi.org/10.1016/j.jslw.2021.100809

Sun, Y. (2020). Technology-enhanced collaborative writing in language learning

environments. Computers & Education, 153, 103907. https://doi.org/10.1016/j.compedu.2020.103907

Warschauer, M. (2010). Invited commentary: New tools for teaching writing. Journal of Second Language Writing, 19(1), 3–4. https://doi.org/10.1016/j.jslw.2010.04.001

Warschauer, M. (2010). Invited commentary: New tools for teaching writing. *Language Learning & Technology*, 14(1), 3–8.

Woodrich, M., & Fan, Y. (2017). Google Docs as a tool for collaborative writing in the middle school classroom. *Journal of Educational Technology Development and Exchange*, 10(1), 1–12. https://doi.org/10.18785/jetde.1001.01

Woodrich, M., & Fan, Y. (2017). Google Docs as a tool for collaborative writing in the middle school classroom. *Journal of Educational Technology Development and Exchange*, 10(1), 1–12. https://doi.org/10.18785/jetde.1001.01

Yim, S., & Warschauer, M. (2017). Web-based collaborative writing in second language contexts. System, 65, 1–10. https://doi.org/10.1016/j.system.2017.04.004

Yim, S., & Warschauer, M. (2017). Web-based collaborative writing in L2 contexts. *Journal of Second Language Writing*, 37, 1–15. https://doi.org/10.1016/j.jslw.2017.05.002

Zhang, R., & Zou, D. (2020). Types, features, and effectiveness of technologies in collaborative writing. *Computer Assisted Language Learning*, 35(3), 1–30. https://doi.org/10.1080/09588221.2020.1781633

Zhang, R., & Zou, D. (2020). Types, features, and effectiveness of technologies in collaborative writing. *Computer Assisted Language Learning*, 35(3), 1–30. https://doi.org/10.1080/09588221.2020.1781633

Zhang, W., & Zou, D. (2024). Technology-enhanced collaborative writing: The role of cloud-based platforms in academic writing practices. Interactive Learning Environments, 32(4), 1580–1594. https://doi.org/10.1080/10494820.2023.2196575

Zhou, W., Simpson, E., & Domizi, D. (2012). Google Docs in an out-of-class collaborative writing activity. *International Journal of Teaching and Learning in Higher Education*, 24(3), 359–375. (No DOI available)

Zhou, W., Simpson, E., & Domizi, D. (2012). Google Docs in an out-of-class collaborative writing activity. *International Journal of Teaching and Learning in Higher Education*, 24(3), 359–375.

Copyright holder:
© Author

First publication right:
Jurnal Kepemimpinan & Pengurusan Sekolah

This article is licensed under: