Jurnal Pengabdian UNDIKMA:
Jurnal Hasil Pengabdian & Pemberdayaan kepada Masyarakat
https://e-journal.undikma.ac.id/index.php/jpu/index
Email: pengabdian@undikma.ac.id

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

Digital Technology Approach in Scientific Writing: Artificial Intelligence Training for Teachers and Students

Andi Muhammad Irfan Taufan Asfar[1*], Andi Muhamad Iqbal Akbar Asfar[2], Ady Kurnia[3], Arif Ridha[4]
[1]*Department of Mathematics Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Bone, Indonesia.
[2]Sustainable Chemical Engineering Technology Study Program, Department of Chemical Engineering, Politeknik Negeri Ujung Pandang, Indonesia.
[3]Department of Management, Faculty of Economics, Universitas Indonesia Timur, Indonesia.
[4]Department of Islamic Communication and Broadcasting, Faculty of Ushuluddin and Da'wah, Institut Agama Islam Negeri Bone, Indonesia.
*Corresponding Author. Email: tauvanlewis00@gmail.com

Abstract: This study aims to improve the scientific writing skills of teachers and students through the utilization of artificial intelligence (AI) technology. The community service program employed two main approaches, namely knowledge sharing and participatory learning, which included lectures, hands-on training, group discussions, case studies, and practical exercises on the use of AI tools for scientific writing. The results demonstrated improvements in participants' scientific writing skills, enhanced understanding of AI concepts, and greater proficiency in applying AI technology throughout the writing process. Furthermore, the program improved the quality of scientific writing, increased participants' interest and confidence in producing scientific papers, and promoted the effective integration of AI technology into academic writing practices. Overall, this community service program contributes positively to the development of scientific writing competencies among teachers and students.

Article History:
Received: 21-03-2026
Reviewed: 28-04-2026
Accepted: 09-05-2026
Published: 20-05-2026

Key Words:
Scientific Writing;
Artificial Intelligence;
Knowledge Sharing;
Participatory Learning.

How to Cite: Asfar, A. M. I. T., Asfar, A. M. I. A., Kurnia, A., & Ridha, A. (2026). Digital Technology Approach in Scientific Writing: Artificial Intelligence Training for Teachers and Students . *Jurnal Pengabdian UNDIKMA*, *7*(2), 805-815. https://doi.org/10.33394/jpu.v7i2.21799

https://doi.org/10.33394/jpu.v7i2.21799

Introduction

Scientific writing is an essential competence for teachers and university students because it supports the communication of ideas, documentation of educational practices, dissemination of research findings, and development of academic knowledge. For teachers, scholarly manuscript preparation contributes to professional development and the sharing of classroom innovations. For university students, it strengthens critical thinking, research literacy, and academic communication skills. However, novice and developing authors often experience difficulties in organizing ideas, constructing logical arguments, integrating credible references, applying academic language conventions, and maintaining writing motivation (Shah et al., 2009; Hyland, 2016; Maral, 2024). Writing anxiety, fear of criticism, and uncertainty regarding academic standards may further discourage them from initiating or completing manuscripts (Fitriani, 2022).

Scientific manuscript preparation involves both technical and non-technical barriers. Technical barriers include limited competence in manuscript organization, argument development, literature selection, citation integration, reference management, and digital

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

writing-support applications (Deta et al., 2022; Khabib, 2022). Non-technical barriers include limited writing time, teaching and administrative workloads, insufficient mentoring, low confidence, and inadequate institutional support (Al-Naqbi, 2010; Çetin & Eymur, 2017; Rabianti et al., 2023). These challenges indicate that manuscript-writing problems are not merely related to language proficiency, but also involve writing strategies, research literacy, digital competence, access to resources, and sustained academic assistance.

Similar problems were identified among teachers at SMP Negeri 1 Kahu and students at Universitas Muhammadiyah Bone. Preliminary interviews and surveys revealed recurring difficulties in developing systematic manuscript structures, incorporating credible references, constructing evidence-based arguments, and using digital tools appropriately. The baseline assessment of 40 participants showed achievement scores of 50% for writing structure, 40% for reference use, and 45% for argumentation. Initial scores for writing efficiency and writing effectiveness were 60% and 55%, respectively. These findings indicate the need for structured assistance in manuscript organization, reference literacy, argument development, and responsible technology use in academic writing.

The rapid development of artificial intelligence provides opportunities to support manuscript preparation and revision. AI-assisted tools can help authors explore ideas, develop outlines, improve sentence clarity, identify language errors, obtain feedback, and locate relevant literature (Nazari et al., 2021; Kacena et al., 2024). These tools may also support individualized learning and repeated guidance during the writing process (Kaharuddin et al., 2024; Wale & Kassahun, 2024), and structured AI-assisted activities have been reported to enhance motivation, confidence, and productivity in academic manuscript development (Muslimin, 2024). Nevertheless, AI use in scholarly writing also raises ethical concerns because generated outputs may contain inaccurate information, biased explanations, oversimplified arguments, or fabricated references. Therefore, AI should be positioned as a supporting instrument rather than a substitute for human judgment, disciplinary knowledge, creativity, and critical thinking (Anantrasirichai & Bull, 2022).

Addressing these needs requires a participatory learning model that connects new knowledge with participants prior experiences and authentic writing problems. This program employed knowledge sharing and participatory learning experience through interactive discussions, demonstrations, guided workshops, hands-on practice, group discussions, case analysis, and manuscript presentations. Four AI-supported platforms ChatGPT, Gemini, Scite, and SciSpace were introduced according to their functions in idea exploration, outline development, language revision, literature exploration, citation-context analysis, and reference verification. The integration of multiple platforms was intended to prevent dependence on a single application and to develop participants ability to select, compare, evaluate, and verify digital information.

The distinctive feature of this community service program lies in the integration of multiple AI-supported platforms within a participatory training model involving both teachers and university students. Unlike programs that focus mainly on the technical operation of generative AI, this initiative combined manuscript organization, reference literacy, evidence-based argumentation, academic language, source verification, critical evaluation, originality, and ethical responsibility. Therefore, this community service program aimed to strengthen the scientific writing competence of teachers at SMP Negeri 1 Kahu and students at Universitas Muhammadiyah Bone through systematic, participatory, critical, and ethically oriented AI-assisted training.

Jurnal Pengabdian UNDIKMA:
Jurnal Hasil Pengabdian & Pemberdayaan kepada Masyarakat
https://e-journal.undikma.ac.id/index.php/jpu/index
Email: pengabdian@undikma.ac.id

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

Method

This community service program employed a participatory training design with a one-group pretest-posttest evaluation. The program was conducted from January to April 2026 at SMP Negeri 1 Kahu and Universitas Muhammadiyah Bone, Bone Regency, South Sulawesi, Indonesia. It involved 40 participants, consisting of 20 teachers and 20 university students. The two groups participated separately but followed the same structure, materials, activities, and evaluation procedures. Each group completed eight meetings: one preliminary meeting, six core face-to-face training sessions, and one final evaluation meeting.

The program applied knowledge sharing and participatory learning experience. The implementation consisted of three stages. First, the preliminary assessment identified participants initial writing competence, technological readiness, prior experience with AI tools, and training needs through diagnostic writing tasks, questionnaires, brief interviews, and observations. The assessment focused on manuscript structure, use of references, argumentation, writing efficiency, and writing effectiveness. Second, the six core sessions progressively covered manuscript organization, topic exploration, outline development, literature exploration, source credibility, reference integration, evidence-based argumentation, language revision, information verification, ethical AI use, peer review, and manuscript revision. ChatGPT and Gemini were used to support idea exploration, outlining, language revision, and feedback, while Scite and SciSpace were used to support literature exploration, citation-context analysis, article comprehension, and reference verification. Third, the final meeting included manuscript presentation, post-training diagnostic writing tasks, participant response questionnaires, and collective reflection.

Program effectiveness was evaluated using diagnostic writing tasks, an analytical writing rubric, structured questionnaires, observation sheets, and documentation. The analytical rubric assessed manuscript structure, use of references, and argumentation. Writing efficiency and effectiveness were measured through structured questionnaires administered before and after the training. Participant feedback was collected using a five-point Likert-scale questionnaire covering satisfaction with training materials, perceived knowledge and skill improvement, interaction and experience-based learning, perceived benefits, and facilitator feedback.

Quantitative data were analyzed descriptively using mean scores, percentages, and pre-training and post-training comparisons. Achievement scores were calculated by dividing the obtained score by the maximum possible score and multiplying it by 100, while relative improvement was calculated by subtracting the pre-training score from the post-training score, dividing it by the pre-training score, and multiplying it by 100. Qualitative data from interviews, observations, open-ended responses, presentations, and reflections were analyzed through reduction, categorization, interpretation, and conclusion drawing.

Ethical and academic integrity principles were emphasized throughout the program. Participants were informed about the objectives, activities, evaluation procedures, and use of aggregated data for reporting and publication. Individual identities were not disclosed. Participants were also instructed not to enter confidential or personally identifiable information into AI platforms and were reminded that accuracy, originality, reference validity, and intellectual responsibility remained with the human author.

Jurnal Pengabdian UNDIKMA:
Jurnal Hasil Pengabdian & Pemberdayaan kepada Masyarakat
https://e-journal.undikma.ac.id/index.php/jpu/index
Email: pengabdian@undikma.ac.id

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

Result and Discussion

Program Implementation and Participant Engagement

The community service program was conducted from January to April 2026 and involved 40 participants, comprising 20 teachers from SMP Negeri 1 Kahu and 20 students from Universitas Muhammadiyah Bone. The two groups participated separately but followed the same program structure, consisting of one preliminary meeting, six core training sessions, and one final evaluation meeting.

The preliminary meeting assessed participants initial writing competence, technological readiness, prior experience with digital writing tools, and difficulties in developing scholarly manuscripts. The core sessions covered manuscript organization, idea development, literature exploration, reference integration, evidence-based argumentation, academic language, information verification, ethical AI use, peer review, and manuscript revision. The final meeting included manuscript presentations, post-training assessment, participant feedback, and reflection.

The training integrated knowledge sharing and participatory learning experience through demonstrations, guided practice, case analysis, group discussions, peer feedback, and facilitator mentoring. Initially, several participants required assistance in operating AI-supported platforms and distinguishing credible scholarly information from generated content. As the program progressed, participants became more independent in developing outlines, locating relevant literature, integrating references, revising academic language, and critically evaluating outputs from different platforms. These findings indicate that combining conceptual instruction with authentic practice effectively supported participants learning, as AI-assisted writing requires opportunities to apply, evaluate, and verify generated information rather than merely learning platform functions (Wale & Kassahun, 2024).

Figure 1. Delivery of materials on AI-assisted scholarly manuscript development

The Despite their different academic and professional backgrounds, both teachers and students demonstrated active participation throughout the program and encountered similar challenges in manuscript organization, reference use, argument development, and the critical use of digital writing tools.

Jurnal Pengabdian UNDIKMA:
Jurnal Hasil Pengabdian & Pemberdayaan kepada Masyarakat
https://e-journal.undikma.ac.id/index.php/jpu/index
Email: pengabdian@undikma.ac.id

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

Improvement in Manuscript-Development Competence

Participants manuscript-development competence was evaluated before and after the program using three indicators: manuscript structure, use of references, and argumentation. The results in Table 1 represent the aggregate achievement scores of all 40 participants.

Table 1. Participants manuscript-development competence before and after the training

Aspect	Pre-training (%)	Post-training (%)	Change in percentage points	Relative improvement (%)
Manuscript structure	50	80	30	60.00
Use of references	40	70	30	75.00
Argumentation	45	75	30	66.67

Table 1 shows improvement in all assessed aspects. The manuscript-structure score increased from 50% to 80%, indicating a gain of 30 percentage points and a relative improvement of 60%. Before the training, participants initial texts generally showed fragmented ideas, unclear organization, and weak paragraph connections. After the training, their writing products became more systematic, coherent, and logically sequenced. This improvement was supported by manuscript analysis, idea mapping, outline development, peer review, and facilitator feedback. ChatGPT and Gemini helped provide alternative structures, while human evaluation ensured that the generated outlines were adapted to participants topics and academic contexts. This supports Kaharuddin et al. (2024), who reported that AI language models can assist idea development and writing organization, although improvement still requires critical evaluation, direct practice, and pedagogical guidance.

The use-of-references score increased from 40% to 70%, with a gain of 30 percentage points and the highest relative improvement of 75%. This aspect had the lowest initial score, indicating participants difficulty in identifying credible sources, determining relevance, integrating citations, and linking references with claims. The improvement was supported by literature exploration and reference-verification activities using Scite and SciSpace. Participants examined citation contexts, explored scholarly articles, consulted original publications, and verified bibliographic information before using references in their manuscripts.

Figure 2. Guided practice in literature exploration and reference verification

The improvement in reference use indicates that AI-assisted literature tools can strengthen reference literacy when accompanied by systematic verification. Although generative AI can accelerate access to possible sources, generated citations cannot be accepted without checking their accuracy and relevance. BaHammam (2023) emphasized that authors remain responsible for the accuracy and integrity of manuscripts developed with generative AI assistance, while Flanagin et al. (2023) highlighted the importance of transparency, accountability, and verification in AI-supported scholarly communication. Therefore, the

Jurnal Pengabdian UNDIKMA:
Jurnal Hasil Pengabdian & Pemberdayaan kepada Masyarakat
https://e-journal.undikma.ac.id/index.php/jpu/index
Email: pengabdian@undikma.ac.id

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

program contributed not only to faster literature searching but also to participants awareness that every reference must be checked against its original source.

Argumentation increased from 45% to 75%, showing a gain of 30 percentage points and a relative improvement of 66.67%. Before the program, participants often produced descriptive paragraphs with unsupported claims or references that were not clearly connected to the argument. After the training, they showed better ability to formulate claims, select relevant evidence, explain source relevance, and connect claims, evidence, and interpretation. This improvement was supported by case-based exercises, comparison of unsupported and evidence-based statements, evaluation of AI-generated responses, and paragraph revision through peer and facilitator feedback. Muslimin (2024), Švab et al. (2023), and Verhoeven et al. (2023) reported that ChatGPT can provide support and guidance during scientific article preparation, while Nazari et al. (2021) noted that AI-assisted tools can facilitate writing development and revision. However, the present findings show that stronger argumentation required active questioning, evidence comparison, and human revision rather than automatic text generation.

Overall, the three indicators showed positive descriptive changes. The highest relative improvement occurred in reference use because it had the lowest initial score and received focused intervention through literature exploration, citation-context analysis, source verification, and reference-integration exercises. Manuscript structure achieved the highest post-training score, indicating that participants responded positively to idea mapping, outline development, guided organization, and iterative revision.

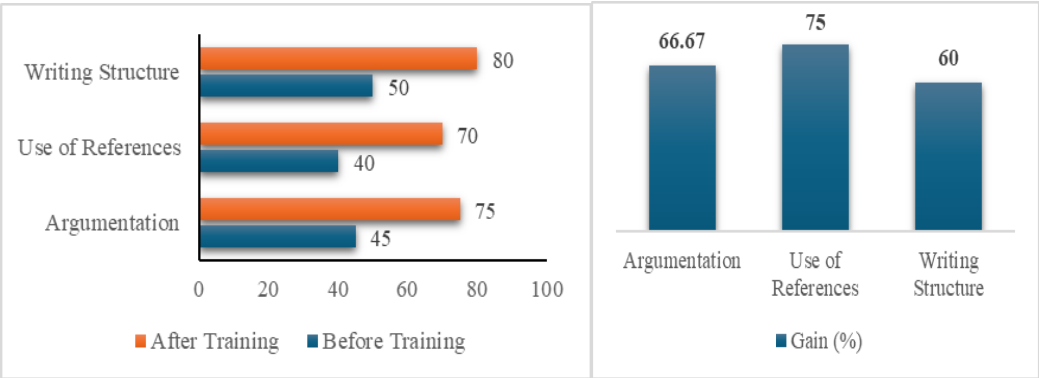

Figure 3. Comparison of manuscript-development competence

Development of AI-Assisted Writing Competence

Before the program, participants experience with artificial intelligence was generally limited to generating or revising text. Several participants were unfamiliar with citation-context analysis, literature exploration, reference verification, and the ethical implications of generated content. During the initial practice, they tended to evaluate AI outputs based on fluency rather than factual accuracy or scholarly validity.

After the training, participants showed improved ability to select AI platforms according to specific manuscript-development needs. ChatGPT and Gemini were used for idea exploration, outline development, language refinement, and formative feedback, while Scite and SciSpace supported citation-context analysis, literature exploration, and article comprehension. Participants were also able to compare outputs from different applications, identify inaccurate or unverifiable information, trace references to original sources, and revise generated content. These activities shifted their use of AI from passive acceptance toward more critical and selective adoption.

Jurnal Pengabdian UNDIKMA:
Jurnal Hasil Pengabdian & Pemberdayaan kepada Masyarakat
https://e-journal.undikma.ac.id/index.php/jpu/index
Email: pengabdian@undikma.ac.id

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

The use of multiple platforms was pedagogically important because each application had different functions and limitations. Comparing outputs and consulting original sources required participants to make academic decisions regarding credibility, relevance, accuracy, and appropriate use. This finding aligns with Anantrasirichai and Bull (2022), who emphasized that the effectiveness of AI depends on how humans interact with and evaluate the technology. Kacena et al. (2024) also noted that AI can support language correction and manuscript refinement. However, the present program extended these technical functions by emphasizing source verification, critical interpretation, and authorial responsibility. Thus, the observed changes should not be interpreted as complete mastery of all platform features. Rather, participants developed greater operational and critical competence in using AI-assisted applications for defined academic tasks, including recognizing limitations, verifying outputs, and maintaining responsibility for the final manuscript.

Improvement in Writing Efficiency and Effectiveness

Writing efficiency and effectiveness were measured using structured questionnaires administered before and after the program. Writing efficiency referred to participants perceived ability to complete manuscript-development tasks more promptly and overcome technical difficulties. Writing effectiveness referred to their perceived ability to produce clearer, more systematic, coherent, and evidence-based texts.

Table 2. Participants writing efficiency and effectiveness before and after the training

Aspect	Pre-training (%)	Post-training (%)	Change in percentage points	Relative improvement (%)
Writing efficiency	60	85	25	41.67
Writing effectiveness	55	80	25	45.45

Table 2 shows that writing efficiency increased from 60% to 85%, representing a gain of 25 percentage points and a relative improvement of 41.67%. Participants perceived that the platforms helped them explore ideas, prepare outlines, locate relevant information, identify language problems, and obtain feedback more quickly. This finding is consistent with Nazari et al. (2021), who reported that AI-assisted writing tools can support academic writing and reduce the burden of language and revision tasks. Muslimin (2024) also found that ChatGPT can enhance productivity by providing rapid assistance during article development. However, the time saved during preliminary drafting still required careful use through source evaluation, argument strengthening, and manuscript refinement.

Writing effectiveness increased from 55% to 80%, showing a gain of 25 percentage points and a relative improvement of 45.45%. Participants perceived that their post-training texts were more systematic, coherent, evidence-based, and communicative, which was consistent with the improvements in manuscript structure, reference use, and argumentation. Del Giglio and da Costa (2023) noted that AI can assist non-native English-speaking authors in improving linguistic clarity and manuscript readability. Kaharuddin et al. (2024) also reported that AI-supported activities may facilitate language proficiency, idea organization, and writing development, while Wale and Kassahun (2024) emphasized the value of feedback and guidance in AI-assisted writing instruction.

Jurnal Pengabdian UNDIKMA:
Jurnal Hasil Pengabdian & Pemberdayaan kepada Masyarakat
https://e-journal.undikma.ac.id/index.php/jpu/index
Email: pengabdian@undikma.ac.id

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

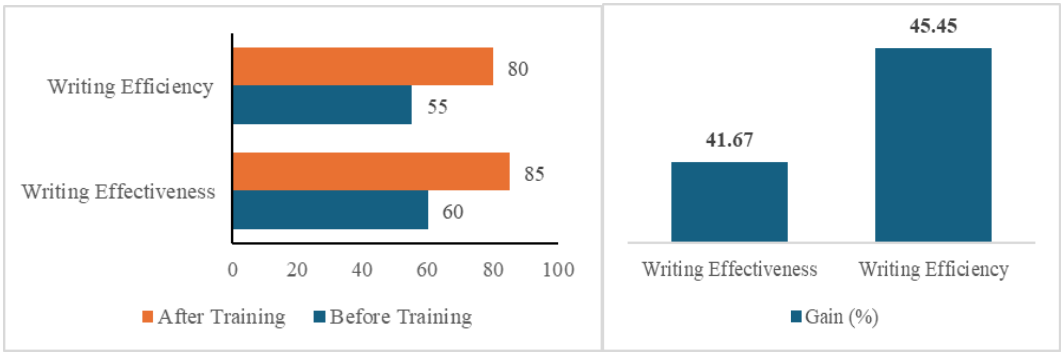

Figure 4. Comparison of writing efficiency and effectiveness

Although efficiency and effectiveness improved, both outcomes should be interpreted carefully. Faster manuscript preparation does not automatically guarantee accuracy, strong evidence, or analytical quality. Therefore, increased efficiency was considered beneficial only when accompanied by source verification, critical evaluation, and substantive human revision.

Participant Feedback and Program Evaluation

Participants responses were evaluated using a five-point Likert-scale questionnaire covering satisfaction with the materials, perceived improvement in knowledge and skills, interaction and experience-based learning, perceived benefits, and facilitator feedback and reflection.

Table 3. Evaluation of participant feedback

Indicator	Mean score	Percentage	Category
Satisfaction with training materials	4.50	90%	Very good
Improvement in knowledge and skills	4.30	86%	Very good
Interaction and experience-based learning	4.10	82%	Good
Perceived program benefits	4.40	88%	Very good
Facilitator feedback and opportunities for reflection	4.20	84%	Good
Overall mean	**4.30**	**86%**	**Very good**

The overall mean score was 4.30, equivalent to 86%, and categorized as very good. The highest score was obtained for satisfaction with training materials at 4.50 or 90%, followed by perceived program benefits at 4.40 or 88% and improvement in knowledge and skills at 4.30 or 86%. These results indicate that the materials, examples, platforms, and practical activities were relevant to participants academic and professional needs, particularly in organizing manuscripts, integrating references, developing arguments, revising academic language, and obtaining feedback. Interaction and experience-based learning received a mean score of 4.10 or 82%, while facilitator feedback and opportunities for reflection obtained 4.20 or 84%. Although both were positively categorized, their relatively lower scores suggest the need for more practice time, individualized mentoring, discussion, and reflection.

Figure 5. Participants engagement during guided practice and group discussion

Jurnal Pengabdian UNDIKMA:
Jurnal Hasil Pengabdian & Pemberdayaan kepada Masyarakat
https://e-journal.undikma.ac.id/index.php/jpu/index
Email: pengabdian@undikma.ac.id

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

The positive feedback supports the relevance of integrating knowledge sharing and participatory learning experience. Conceptual explanations established the foundation, while direct practice enabled participants to apply these concepts to authentic manuscript-development tasks. Shah et al. (2009) identified inadequate guidance, uncertainty, and fear of criticism as common difficulties among novice scientific writers; therefore, a supportive environment involving peer exchange and facilitator feedback may encourage more active engagement in manuscript preparation. Wale and Kassahun (2024) also emphasized the value of feedback, support, and guidance in AI-assisted writing instruction. Participants qualitative suggestions included longer practical sessions, additional case studies, stronger internet access, and continued mentoring. These suggestions indicate that follow-up assistance through a writing clinic, peer-mentoring group, or community of practice is needed to sustain the program outcomes.

Implementation Challenges and Lessons Learned

Several challenges were encountered during program implementation. First, participants demonstrated different levels of technological readiness. While some adapted quickly to the AI supported platforms, others required repeated demonstrations and facilitator guidance. Similar differences in AI readiness have also been reported in professional education, highlighting the importance of structured guidance and gradual learning support (Banerjee et al., 2021).

Second, internet connectivity and limited device capacity occasionally constrained practical activities, reducing opportunities for literature exploration, reference verification, and platform utilization. Third, despite completing eight meetings, participants indicated that the competencies addressed, including manuscript organization, literature exploration, argument development, reference verification, and ethical AI use, required additional practice and continued mentoring.

Another important lesson concerned participants initial tendency to regard fluent AI generated responses as inherently accurate. Practical examples of fabricated references and unsupported claims were therefore incorporated to strengthen critical evaluation and source verification. This finding reinforces that AI assisted writing should emphasize academic integrity and human responsibility rather than technical efficiency alone (BaHammam, 2023; Flanagin et al., 2023). The program also had several methodological limitations. The evaluation employed a one group pretest posttest design without a comparison group, and the findings were reported as aggregated scores for teachers and students. In addition, writing efficiency and effectiveness were measured primarily through participant perceptions, while the evaluation was conducted immediately after the training without assessing longer term retention or manuscript completion.

Despite these limitations, the program demonstrates that integrating AI supported platforms with guided practice, peer discussion, facilitator feedback, and source verification can strengthen manuscript organization, reference literacy, argumentation, and writing performance. These findings also highlight that the educational value of AI lies not in automating writing but in supporting critical, ethical, and evidence based scholarly writing practices.

Conclusion

The AI-assisted scientific writing training improved the manuscript-development competence of 40 participants, consisting of 20 teachers from SMP Negeri 1 Kahu and 20 students from Universitas Muhammadiyah Bone. Descriptive comparisons showed that the

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

manuscript-structure score increased from 50% to 80%, reference use from 40% to 70%, and argumentation from 45% to 75%. Participants also reported improvements in writing efficiency from 60% to 85% and writing effectiveness from 55% to 80%. The overall participant-response score reached 4.30 out of 5, equivalent to 86%, and was categorized as very good. These findings indicate that the integration of ChatGPT, Gemini, Scite, and SciSpace through *knowledge sharing*, guided practice, collaborative discussion, source verification, and facilitator feedback supported more systematic, evidence-based, efficient, and responsible manuscript development. Nevertheless, differences in initial technological competence, internet connectivity, device availability, and limited practice time remained challenges that should be considered in future implementation.

Recommendation

Partner institutions should sustain the program through an AI-assisted writing clinic integrated into teacher professional development and university academic-writing activities. Future implementation should provide longer practical sessions, adequate technological support, validated evaluation instruments, and separate analyses for teachers and students. A three to six-month follow-up is also recommended to monitor skill retention, manuscript progress, and the responsible use of AI.

References

Al-Naqbi, A. K. (2010). The degree to which UAE primary science workbooks promote scientific inquiry. *Research in Science & Technological Education, 28*(3), 227–247. https://doi.org/10.1080/02635143.2010.506316

Anantrasirichai, N., & Bull, D. (2022). Artificial intelligence in the creative industries: A review. *Artificial Intelligence Review, 55*(1), 589–656. https://doi.org/10.1007/s10462-021-10039-7

BaHammam, A. S. (2023). Balancing innovation and integrity: The role of AI in research and scientific writing. *Nature and Science of Sleep, 15*, 1153–1156. https://doi.org/10.2147/NSS.S455765

Banerjee, M., Chiew, D., Patel, K. T., Johns, L., Chappell, D., Linton, N., Cole, G. D., Francis, D. P., Szram, J., Ross, J., & Zaman, S. (2021). The impact of artificial intelligence on clinical education: Perceptions of postgraduate trainee doctors in London (UK) and recommendations for trainers. *BMC Medical Education, 21*, Article 429. https://doi.org/10.1186/s12909-021-02870-x

Çetin, P. S., & Eymur, G. (2017). Developing students' scientific writing and presentation skills through argument-driven inquiry: An exploratory study. *Journal of Chemical Education, 94*(7), 837–843. https://doi.org/10.1021/acs.jchemed.6b00915

Del Giglio, A., & da Costa, M. U. P. (2023). The use of artificial intelligence to improve the scientific writing of non-native English speakers. *Revista da Associação Médica Brasileira, 69*(9), e20230560. https://doi.org/10.1590/1806-9282.20230560

Deta, U. A., Mubarok, H., Mustar, Y. S., Kohar, A. W., & Ghofur, M. A. (2022). Study of perceptions and obstacles from postgraduate education students about scientific publication as a graduation requirement. *International Journal of Current Educational Research, 1*(2), 135–144. https://doi.org/10.53621/ijocer.v1i2.188

Fitriani, N. (2022). EFL students' perceptions of the causes of scientific writing anxiety. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature, 10*(1), 287–299. https://doi.org/10.24256/ideas.v10i1.2637

Vol. 7, No. 2 (May 2026)
E-ISSN : 2722-5097
Pg : 805-815

Flanagin, A., Bibbins-Domingo, K., Berkwits, M., & Christiansen, S. L. (2023). Nonhuman "authors" and implications for the integrity of scientific publication and medical knowledge. *JAMA, 329*(8), 637–639. https://doi.org/10.1001/jama.2023.1344

Hyland, K. (2016). Academic publishing and the myth of linguistic injustice. *Journal of Second Language Writing, 31*, 58–69. https://doi.org/10.1016/j.jslw.2016.01.005

Kacena, M. A., Plotkin, L. I., & Fehrenbacher, J. C. (2024). The use of artificial intelligence in writing scientific review articles. *Current Osteoporosis Reports, 22*(1), 115–121. https://doi.org/10.1007/s11914-023-00852-0

Kaharuddin, Ahmad, D., Mardiana, Latif, I., Arafah, B., & Suryadi, R. (2024). Defining the role of artificial intelligence in improving English writing skills among Indonesian students. *Journal of Language Teaching and Research, 15*(2), 568–578. https://doi.org/10.17507/jltr.1502.25

Khabib, S. (2022). Introducing artificial intelligence (AI)-based digital writing assistants for teachers in writing scientific articles. *Teaching English as a Foreign Language Journal, 1*(2), 114–124. https://doi.org/10.12928/tefl.v1i2.249

Maral, M. (2024). Bibliometric analysis of global research on scientific writing. *DESIDOC Journal of Library & Information Technology, 44*(3), 192–200. https://doi.org/10.14429/djlit.44.3.19534

Muslimin, I. (2024). The use of ChatGPT to improve scientific article productivity of postgraduate students. *Journal of Education Management and Instruction, 3*(1), 63–71. https://doi.org/10.22515/jemin.v3i1.7352

Nazari, N., Shabbir, M. S., & Setiawan, R. (2021). Application of artificial intelligence-powered digital writing assistant in higher education: Randomized controlled trial. *Heliyon, 7*(5), e07014. https://doi.org/10.1016/j.heliyon.2021.e07014

Rabbianty, E. N., Azizah, S., & Virdyna, N. K. (2023). AI in academic writing: Assessing current usage and future implications. *INSANIA: Jurnal Pemikiran Alternatif Kependidikan, 28*(1a), 14–35. https://doi.org/10.24090/insania.v28i1a.9278

Shah, J., Shah, A., & Pietrobon, R. (2009). Scientific writing of novice researchers: What difficulties and encouragements do they encounter? *Academic Medicine, 84*(4), 511–516. https://doi.org/10.1097/ACM.0b013e31819a8c3c

Švab, I., Klemenc-Ketiš, Z., & Zupanič, S. (2023). New challenges in scientific publications: Referencing, artificial intelligence and ChatGPT. *Slovenian Journal of Public Health, 62*(3), 109–112. https://doi.org/10.2478/sjph-2023-0015

Verhoeven, F., Wendling, D., & Prati, C. (2023). ChatGPT: When artificial intelligence replaces the rheumatologist in medical writing. *Annals of the Rheumatic Diseases, 82*(8), 1015–1017. https://doi.org/10.1136/ard-2023-223936

Wale, B. D., & Kassahun, Y. F. (2024). The transformative power of AI writing technologies: Enhancing EFL writing instruction through the integrative use of Writerly and Google Docs. *Human Behavior and Emerging Technologies, 2024*, Article 9221377. https://doi.org/10.1155/2024/9221377

