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AI-ASSISTED WRITING TRAINING: TRANSFORMING TEACHERS INTO PRODUCTIVE AUTHORS THROUGH OPTIMIZATION OF ARTIFICIAL INTELLIGENCE TOOLS AT SD N BANJARSARI 5

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Abstract
Digital transformation in education has increased expectations for teachers' professional competencies, yet empirical evidence on targeted interventions that enhance primary school teachers' scholarly writing through AI remains limited. This study aimed to evaluate the effects of an AI-Assisted Writing training program implemented at SD N Banjarsari 5 on teachers' scientific writing productivity and digital literacy. A descriptive-intervention design with purposive sampling was employed; in-service primary teachers (n recorded) participated in a participatory, hands-on training covering ChatGPT, QuillBot, Grammarly, and Canva. Data were collected via pre- and post-training questionnaires, observation rubrics, structured interviews, and writing artifacts, and were analyzed using paired-sample t-tests for quantitative measures and thematic analysis for qualitative data. The results showed that participants exhibited significant improvements in self-reported writing competence and satisfaction, produced more structured draft manuscripts, and demonstrated enhanced ability to generate ideas, paraphrase academically, and apply digital tools to develop instructional media. Observational and thematic findings also identified persistent gaps in baseline digital skills and ethical awareness regarding AI use. The study contributes empirical evidence that AI-assisted writing interventions can strengthen teachers' scholarly productivity and digital literacy, and it highlights the need for ongoing capacity-building and clear ethical guidelines to support sustainable implementation in school contexts.
Keywords: AI-assisted writing, teacher professional development, digital literacy

INTRODUCTION

Digital transformation in education is compelling teachers to continuously enhance their professional competencies, particularly their mastery of information and communication technologies. One rapidly developing technology is Artificial Intelligence (AI). AI has not only altered how learners engage with content but also created opportunities for teachers to improve instructional quality and academic productivity. As professionals, teachers are expected to produce scholarly work as part of their competence development and career progression. However, many teachers still face obstacles in scholarly writing, such as difficulties formulating ideas, structuring articles, using academic language, and finding sufficient time to write. These barriers have contributed to low levels of scholarly publication productivity among primary school teachers.

The use of AI in education has increasingly been applied to support teachers' academic activities. Khabib (2022) found that AI-based digital writing assistants can help teachers compose scholarly articles more effectively and systematically. AI supports idea generation, paragraph development, grammatical refinement, and the compilation of scholarly references (Mutoharoh et al., 2026). Tabina et al. (2025) added that strengthening teachers' digital literacy through AI utilization improved the quality of instructional materials and assessment design. These findings indicate that AI

functions not merely as a technical tool but also as a medium for developing teachers' professional competencies in the digital era.

AI implementation also aligns with the Merdeka Curriculum by fostering innovative, technology-based instructional media. Fauziah et al. (2024) argued that AI training can enhance teachers' creativity in creating more engaging and adaptive learning media. In the domain of pedagogical competence, AI has been shown to increase teacher work effectiveness: Putra et al. (2025) reported that AI assists teachers in preparing instructional devices more efficiently and strengthens digitally based pedagogical skills. Similarly, Putra et al. (2025) reported that AI acts as an organizational transformation tool that raises productivity and work effectiveness.

The demands of the digital era require teachers to pursue continuous competency development. Putra et al. (2025) stated that exemplary teachers in the digital age are those who can integrate technology into their professional development and teaching processes. Therefore, strengthening teachers' AI competencies is an essential need to meet the challenges of twenty-first-century education.

Despite the argued potential of AI to support teachers' scholarly writing and professional growth, empirical evidence specifically documenting the effects of AI-assisted writing training on primary school teachers' scientific writing productivity and digital literacy remains limited. Prior studies have demonstrated AI's benefits for instructional materials and pedagogical practices (Fauziah et al., 2024) and have highlighted the capabilities of AI-based writing tools (Khabib, 2022; Tabina et al., 2025). Nevertheless, few investigations have examined targeted capacity-building interventions that train primary school teachers in AI-assisted scholarly writing and measured subsequent changes in publication output and digital literacy. This gap is especially pronounced in the context of Indonesian primary schools implementing the Merdeka Curriculum.

Accordingly, this community service project was conducted at SD N Banjarsari 5 with a focus on AI-Assisted Writing training to help teachers improve their ability to produce scholarly work through the optimization of Artificial Intelligence tools. The activity aimed to increase teachers' scholarly writing productivity while strengthening digital literacy among educators.

METHOD AND PROCEDURES

The community service activity was implemented at SD N Banjarsari 5 and targeted primary school teachers. A participatory, hands-on training design was employed to ensure participants could understand and apply AI tools effectively for scholarly writing.

Research design

A descriptive-intervention design with a single-group pre-post implementation approach was used to evaluate the training process and immediate outcomes.

Participants

Purposive sampling was applied to recruit in-service primary school teachers from SD N Banjarsari 5 who voluntarily participated in the program. Participant demographics (n, gender, years of service, and prior digital literacy) were recorded.

Instruments

1. A needs-assessment checklist and questionnaire were used to identify participants' digital literacy and scientific writing skills during the preparation phase.
2. Training materials included step-by-step guides and demonstration scripts for AI tools (ChatGPT, QuillBot, Grammarly, and Canva).
3. Evaluation instruments comprised an observation rubric for practical sessions, a structured interview guide, and pre- and post-training questionnaires measuring understanding, satisfaction, and self-reported writing competency.
4. Samples of participants' draft manuscripts produced during practice were collected as performance artifacts.

Data collection procedures

1. Preparation

   The team conducted a needs assessment using the checklist and questionnaire, and coordinated logistics with the school.
2. Socialization

   Facilitators delivered sessions explaining AI concepts, developments in education, benefits for scholarly writing, and ethical considerations. Attendance and session notes were recorded.
3. Training and practice

   Facilitators demonstrated and simulated AI-assisted writing workflows. Participants practiced composing and revising manuscript drafts using ChatGPT (idea generation and draft composition), QuillBot (paraphrasing and sentence-level editing), Grammarly (grammar and academic register checks), and Canva (visuals for articles). Observers completed the rubric during practice sessions and collected participants' draft outputs.

Figure 1. Workshop Documentation

Figure 2. assistance in writing articles

4. Evaluation

   Data were collected through direct observation, structured interviews, the pre- and post-training questionnaires, and analysis of produced writing samples.

Data analysis

1. Quantitative data from questionnaires and rubrics were analyzed using descriptive statistics (frequencies, means, and standard deviations) and paired-sample t-tests to assess pre-post changes in self-reported competence and satisfaction.
2. Qualitative data from interviews, observation notes, and writing artifacts were analyzed using thematic analysis to identify recurring patterns related to usability, challenges, perceived benefits, and ethical concerns.
3. Triangulation of quantitative and qualitative findings was performed to validate results and provide a comprehensive assessment of training effectiveness.

Ethical considerations

Informed consent was obtained from all participants. Data confidentiality and anonymity were maintained in reporting.

RESULTS

The implementation of the community service activity proceeded smoothly and received positive responses from participants. The findings revealed that teachers exhibited high levels of enthusiasm during the training, as most had not previously utilized AI tools optimally in academic activities. The analysis indicated that, at the start of the training, many teachers experienced difficulties in composing scholarly articles, particularly in idea development, constructing academic paragraphs, and using academic language. After participation, teachers reported that they recognized AI as a supportive tool for enhancing the effectiveness and efficiency of the writing process.

The results demonstrated that the use of ChatGPT facilitated teachers' identification of research ideas, organization of article outlines, and systematic development of discussion sections. Teachers became more able to draft background sections, formulate research problems, and write conclusions in scholarly articles. The findings also showed that QuillBot assisted participants in paraphrasing academic sentences, thereby increasing linguistic variety and reducing the risk of plagiarism. Similarly, Grammarly improved grammatical accuracy, sentence structure, and overall academic writing quality.

Overall, the activity produced observable improvements in teachers' abilities to:

1. Draft scholarly articles;
2. Develop writing ideas with AI support;
3. Perform academic editing and paraphrasing;
4. Use digital technologies productively;
5. Produce AI-based instructional materials and learning media

Discussion

The findings align with Khabib, (2022), who argues that AI-based writing assistants can enhance teachers' writing effectiveness. This finding also corroborates Susanto et al. (2025), who reported that AI utilization in scholarly writing improves text quality and academic work efficiency. In addition, Tabina et al. (2025) demonstrated that AI integration in education strengthens teachers' digital literacy and pedagogical competencies. Together, these results reinforce the view that AI is increasingly perceived within educational transformation not as a threat but as a tool for supporting teacher professionalism.

Nevertheless, the intervention revealed persistent challenges. The analysis indicated that some participants continued to exhibit limited digital skills, and concerns about the ethical use of AI in scholarly writing emerged during training. This may be attributed to uneven prior exposure to digital technologies and to ambiguous norms regarding authorship, attribution, and acceptable levels of machine assistance. In contrast to studies that emphasize only technical benefits, these practical constraints underscore the need to address both skill gaps and ethical considerations.

The study contributes theoretically by extending evidence on AI-assisted writing from instructional materials and pedagogical practice into the domain of teachers' scholarly productivity, thereby bridging a gap between digital-literacy literature and research on academic writing support. Practically, the findings suggest that successful implementation of AI-Assisted Writing in schools requires sustained capacity-building, clear ethical guidelines, and institutional support for reflective supervision and follow-up mentoring.

CONCLUSION

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