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Developing Teacher Professionalism Through Training in Writing and Publication of Scientific Works

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ABSTRACT

Strengthening teachers' scientific literacy is an essential prerequisite for Continuing Professional Development, particularly in the context of Vocational High Schools, which demand evidence-based learning. This study reports on a community service program involving training and mentoring in scientific writing and publication for teachers at SMKN 1 Cilimus, Kuningan. The program aimed to improve knowledge, technical skills in article writing, and writing self-efficacy. The program was designed using a blended (offline and online synchronous-asynchronous) product-oriented training and mentoring approach through interactive lectures, guided discussions, Q&A sessions, clinical writing, peer review, and iterative feedback. The procedure was implemented in four stages: preparation, training implementation, mentoring, and evaluation. The results indicate the successful implementation of offline training (June 3, 2025), followed by online mentoring, resulting in writing milestones and the development of the PTK Writing e-module to the final version. This program confirms the effectiveness of the product-oriented training design in the vocational ecosystem and identifies areas for improvement by strengthening quantitative measurement.

1. INTRODUCTION

Continuously improving teacher competency is a systemic mandate in Indonesia. Ministerial Regulation No. 16 of 2007 emphasizes the obligation for every teacher to meet academic qualification standards and pedagogical, professional, social, and personality competencies. On the career side, Ministerial Regulation No. 16 of 2009 places scientific work as a primary element in assessing credit points and promotions, making the ability to write and publish articles an integral part of ongoing professional development. Although Law No. 14 of 2005 does not require teachers to conduct research like lecturers, it emphasizes teacher professionalism as the vanguard of achieving national education goals, which practically demands scientific literacy for reflection, innovation, and the sharing of good practices. At the vocational high school (SMK) level, this need is even more pressing because the vocational context demands problem-based learning and empirical evidence from the classroom. The community service program with the theme of scientific writing and publication training for teachers at SMKN 1 in Cilimus, Kuningan, is designed to strengthen these competencies through a product-oriented training-mentoring approach (draft articles ready to be submitted), so that it is in line with the framework of Continuous Professional Development (PKB) and the institutional needs of vocational schools.

Despite the increasing achievement of vocational schools, many teachers still face barriers to writing and publishing scientific papers. These barriers include uncertainty in selecting a compelling Classroom Action Research (CAR) topic, difficulty mapping the Introduction, Method, Results, and Discussion (IMRAD) framework, a lack of understanding of ethics/literature, limited mentoring, and a perceived time burden and fear of the review process. Research evidence in Indonesia indicates barriers to writing and publishing are related to methodological readiness, academic language literacy, and a limited support ecosystem [1, 2]. In the context of vocational high school teachers, the need for material differentiation (e.g., vocational studies, mapping relevant journals, and submission processes) is often not adequately addressed by general training. Therefore, interventions are needed that link classroom CAR ideas to submit-worthy articles, along with measurable success indicators (knowledge, confidence, manuscript quality, and submission actions).

Several previous studies indicate that effective training generally combines conceptual presentation, guided practice, iterative feedback, and mentoring up to the submission stage. Publication serves as a professional development tool because it encourages reflection on teachers' research practices and skills [3]. CAR as a contextual professional learning vehicle that strengthens understanding of what works and how in the classroom [4]. Types of teacher research engagement and recommendations for strengthening them at the stakeholder level [5]. A study of school environments that support research engagement and its implications for teacher professionalism [6]. Nzekwe-Excel [7] found that attending a writing workshop correlated with improved academic writing performance among participants. Afriyani *et al*. [8] reported increased knowledge of structure, citations, and publication strategies after teacher writing training. Prihatni *et al*. [9] demonstrated the development of published articles for vocational high school teachers through a combination of materials, practice, and mentoring. In addition, Latifah *et al*. [10] proved the effectiveness of scientific article training for elementary school teachers in improving writing skills, and Rohmah *et al*. [11] mapped the training needs

of English teachers, highlighting gaps in journal selection, abstract writing, and reference arrangement.

These previous studies demonstrate strong evidence of the benefits of scientific writing training, but several gaps remain. Training research specifically targeting vocational high school (SMK) teachers in the Indonesian context, with examples of vocational domains and output indicators based on manuscript quality, is still limited. Furthermore, many studies focus on primary or secondary school teachers. Another limitation is the relatively rare systematic reporting of an end-to-end approach that integrates classroom data-based CAR idea discovery, IMRAD writing, Sinta/Scopus journal mapping, ethical preparation and submission eligibility, and post-training mentoring until manuscript submission is complete. Third, measures of success often stop at increased knowledge or self-reported confidence, lacking consistent assessment of manuscript quality using standardized rubrics or measuring conversion rates to submission. This community service program aims to address this gap.

This community service research aims to provide training and mentoring for teachers at SMKN 1 Cilimus in scientific writing and publication to improve their knowledge, technical skills, and writing self-efficacy, and to produce measurable outputs in the form of ready-to-submit article drafts and proof of submission to target journals. The program's novelty lies in the use of contextual examples in the vocational field (TVET) to increase the relevance of the material and transfer to practice; and includes mapping of target journals (national/international) and a submission checklist simulation so that conversion to submission can be measured. This design complements previous findings on teacher writing and research engagement workshops [3, 4, 6] with a more comprehensive vocational focus, product outputs, and impact metrics.

2. METHODS

This community service activity utilizes a product-oriented training and mentoring design to improve teachers' ability to write and publish scientific articles. The approach was blended, with activities conducted using a combination of face-to-face (offline) and online (synchronous/asynchronous) meetings. Learning strategies included interactive lectures, guided discussions, Q&A sessions, and hands-on practice. The entire series was directed toward producing a draft article ready for submission, in accordance with the target journal's style and environment.

The activity partner was SMKN 1 Cilimus, Kuningan (see **Figure 1**). Participants were teachers from various expertise programs at partner vocational schools who were willing to participate in the entire series of activities. Inclusion criteria: (1) active teaching; (2) have a topic or class data (e.g., PTK/small research) that can be developed; (3) committed to following mentoring until producing a draft article. Core materials include: (1) mapping class ideas/research and determining the focus of the article; (2) the Introduction–Methods–Results–Discussion (IMRAD) structure; (3) publication ethics (authorship, citations, plagiarism awareness); (4) use of reference managers (e.g., Mendeley/Zotero); (5) selection of target journals (suitability of scope, author guidelines); (6) strategies for writing abstracts, tables/figures, and conclusions; (7) submission checklists and communication with editors. Learning resources included concise modules, article templates, manuscript assessment rubrics, and a list of relevant journals in the vocational/educational field.

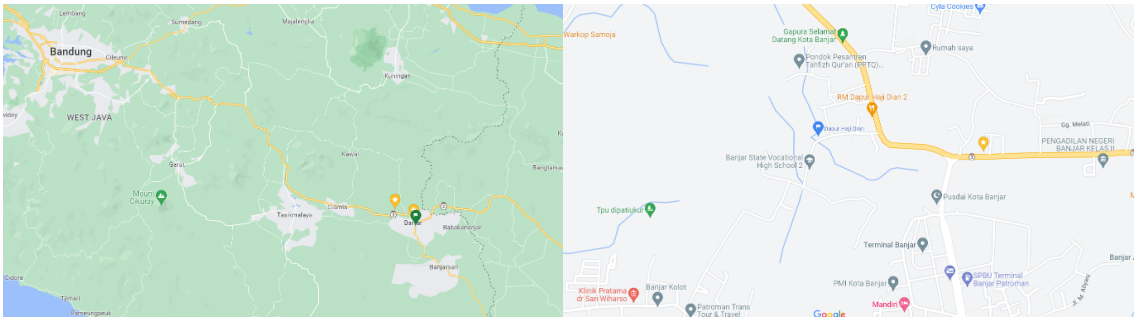

Figure 1. Community Service Location Map.

The activity was carried out in four stages as shown in **Figure 2**. The first step is the preparation stage including coordination with partner schools (setting the time, facilities, list of participants), a short needs assessment (initial questionnaire) to map writing experiences, obstacles, and target participants, preparation of tools starting from modules, article templates, manuscript quality rubrics, evaluation instruments (pre-post knowledge; writing self-efficacy scale; reflection sheet), ethical approval including informed consent, data confidentiality policy, and anti-plagiarism commitment.

The second step was the training implementation stage. The offline training (face-to-face at SMKN 1 Cilimus) included activities to explain key concepts; dissect sample articles; and a writing workshop (compiling background, problem formulation, and method framework). Meanwhile, the synchronous online activity (Zoom/Meet) discussed the IMRAD clinic, compiling citations and bibliographies, and aligning with author guidelines. An asynchronous online process (WA/virtual class) was also implemented to provide ongoing feedback, upload milestones (outlines, section-by-section drafts), and technical Q&A.

The third phase was the mentoring phase. During this phase, individual/small group writing clinics were held with structured feedback based on a rubric. Peer review activities (paper exchange sessions) were also conducted among participants. Furthermore, the mentoring phase includes journal mapping and finalizing crucial components (abstract, keywords, tables/figures, cover letter). The target for this phase was to obtain at least one complete article draft per participant/group, ready for submission.

The final step was the evaluation stage. There were three types of evaluations: process evaluation, outcome evaluation, and participant reflection on the training program. Process evaluation covers milestone achievement, attendance, and activity on online channels. Outcome evaluation includes (a) pre-post knowledge; (b) manuscript quality scores based on rubrics (structure, guideline adherence, citation accuracy, argument coherence, analytical depth); (c) output indicators (number of final drafts, evidence submitted to journals, initial feedback from editors, if any). Meanwhile, participant reflection was an evaluation that concerns perceptions of usefulness, remaining obstacles, and follow-up plans. We used four integrated training methods, namely interactive lectures to align concepts and framing, directed discussions to contextualize the material in vocational cases at vocational schools, questions and answers to unravel specific obstacles for participants, and hands-on guided writing to produce article sections in stages.

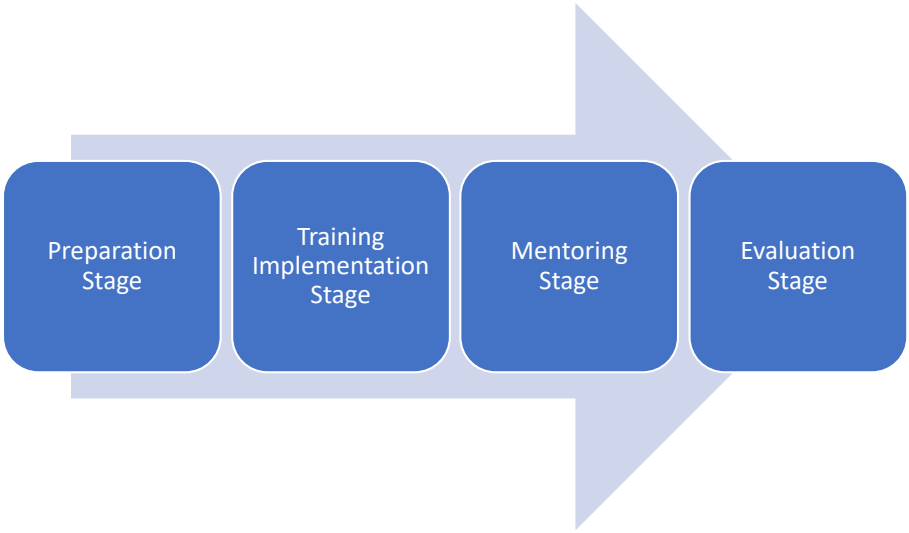

Figure 2. Research Stages.

3. RESULTS AND DISCUSSION

Scientific writing and publication training was held in-person on June 3, 2025, at SMKN 1 Cilimus Kuningan (see **Figure 3**). This offline activity focused on exploring teachers' scientific writing issues and strengthening the foundations of IMRAD/environmental style. Following the offline session, the team continued online mentoring via Zoom/Meet (synchronous) and WhatsApp group (asynchronous) to facilitate writing clinics, upload milestones, and provide iterative feedback.

Figure 3. The Process of Implementing the Scientific Writing and Publication Training Program.

The team developed an e-module on PTK Writing, consisting of: (i) PTK Concept; (ii) PTK Procedure; (iii) Procedure for Scientific Publication of PTK Results. The achievement section (Chapter IV) states that progress is ±80% and an IPR submission is planned. The compliance section (Chapter V) states that the ebook is 100% complete and will proceed to the IPR process. This difference indicates the post-training progress from the e-module draft to the final manuscript/ebook. This product-oriented training model, which combines offline, synchronous online, and asynchronous sessions and places clinical writing at the core of the process, aligns with the characteristics of effective teacher professional development (TPD), which is content-focused, active-collaborative, includes modeling and feedback, and is sustainable [12-14]. This training design

theoretically increases the chances of practice change and transfer to scientific writing output because it links procedural writing knowledge to the context of teachers' everyday work [12-14].

Previous research indicates that coaching/mentoring has a moderate to high impact on instructional practices and student learning outcomes, which analogously provides a strong foundation for coaching in scientific writing [15, 16]. Writing retreats or structured writing support interventions have also been shown to move writing activities from the "fringe" to the "mainstream" of academic work through structured time allocation, communities of practice, and iterative feedback [17]. An emphasis on Classroom Action Research (CAR) with vocational examples strengthens professional learning embedded in practice (in and through practice). Recent studies confirm that action research enables teachers to understand "what works, how, and for whom," and fosters practical change through collaborative reflection [18]. In the VET/TVET context, strengthening teacher research engagement is also influenced by the school ecosystem and policy support. This demonstrates the importance of ongoing mentoring after the workshop [19].

Continuing mentoring via Zoom/WhatsApp supports the principles of effective and flexible blended professional development, while maintaining the quality of interactions and providing a community of practice. A systematic review shows that effective teacher professional development for online and blended learning includes task clarity, actionable feedback, and community support, all of which are positively correlated with participants' perceived usefulness and implementation [20].

Based on the findings and literature, the next cycle is recommended to (i) use a manuscript quality rubric aligned with journal standards as the primary indicator of impact; (ii) set quantitative output targets (proportion of complete drafts and submission rate); and (iii) extend mentoring 4–8 weeks post-training to maintain conversion to submission [12, 13, 16].

4. CONCLUSION

The scientific writing and publication training and mentoring program at SMKN 1 Cilimus successfully developed a complete pipeline from conceptual strengthening to tangible outputs. The product-oriented design, which combines offline, synchronous-asynchronous online, clinical writing, and peer review, has proven operational and relevant to vocational needs, as it links real-life classroom learning issues with the structure of scientific writing, publication ethics, the use of reference managers, journal mapping, and submission checklists. Substantively, the program strengthens three aspects: (1) technical knowledge and skills in IMRAD-formatted writing, oriented toward author guideline compliance; (2) writing self-efficacy through structured feedback and a community of practice; and (3) output orientation through final draft targets and the submission process. However, current reporting is still limited to process and product achievements, and does not yet provide quantitative measures of knowledge/efficacy improvements or manuscript quality. It is recommended that further research establish explicit quantitative indicators (pre-post, manuscript quality rubric, conversion to submission), and extend post-training mentoring for 4–8 weeks to maintain the sustainability and quality of manuscript revisions. With this strengthening, the program is expected to produce a measurable, replicable, and sustainable impact on the scientific literacy culture of vocational teachers.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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