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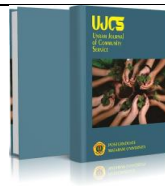

Writing and Publishing High-Value Scientific Papers for Teachers

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Abstract: This community service activity aims to improve teachers' understanding and skills in writing and publishing systematic and high-quality scientific papers. The target group was 31 teachers at State Senior High School 14, Central Maluku, who participated in four days of training using training, discussion, and hands-on mentoring. The activity process included pre-writing, writing, and post-writing stages, beginning with a pre-test and ending with a post-test to measure the improvement in participants' competency. The results of the activity showed a significant improvement in the understanding of scientific paper structure, the ability to develop article outlines and drafts, and increased teacher confidence in writing and publishing scientific papers. Questionnaire data showed a high level of positive responses for most indicators, although several aspects still need improvement, such as understanding plagiarism and publication confidence. In addition, this activity also encouraged collaborative interactions between teachers and fostered an academic culture within the school environment. In conclusion, this training was effective in improving teachers' scientific writing competency, but follow-up in the form of ongoing mentoring and advanced training is needed to achieve more optimal and equitable results.

Keywords: Scientific Writing; Teacher Competence; Writing Training; Scientific Publication; Teacher Professional Development

Introduction

As a lecturer at Pattimura University, the author feels compelled to share his experiences through this mini-paper. Almost a decade has passed in his academic service, with numerous scientific papers published in national and international journals. Many novice researchers are confused about how to begin writing a good scientific paper. Drawing on personal experience as an honorary teacher at Ambon 45 Private High School and Ambon YPKPM Christian High School, the inspiration for writing this paper also stems from the guidance of an extraordinary teacher during his master's studies in the Physics Education Study Program at Malang State University, Prof. Dr. Markus Diantoro, M.Sc. Through this paper, the author also aims to provide practical insights for teachers in composing good scientific papers. Writing scientific papers for teachers can begin with real problems in the classroom, then formulated into clear research questions. Furthermore, teachers need to use systematic methods, process data objectively, and present results in coherent and easy-to-understand language. Thus, scientific papers are not only an administrative requirement but also a means of reflection and improvement in the quality of classroom learning. It's important to realize that every researcher will eventually face the moment of staring at a blank page, unsure where to start and what to write first. Organizing research results so that they are understandable and publishable is no simple matter; it

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demands clarity of thought and precision in presentation (Kf et al., 2022). Sharing their findings is an important goal for many professionals. However, in practice, many find it difficult to find the time, or even have little opportunity, to pursue this interest (Osman et al., 2021).

Writing a scientific paper is a challenging process, requiring a combination of technical skills and creativity. Researchers need to understand the context of their contributions and be able to clearly formulate research questions and objectives. A sound and systematic research methodology must be well-designed, followed by thorough and accurate data analysis. Research results must then be presented clearly and concisely, along with a discussion of their implications for further research. Furthermore, it is crucial to follow guidelines and pay attention to language and writing style. Writing guidelines aim to help novice researchers get started and provide an overview of ethical principles in academia (Chaabouni, 2023). A researcher's primary role is to communicate their technical findings to the scientific community. This communication process is a fundamental part of the scientific method itself. A weak idea or poorly designed research will not be helped by a compelling presentation alone. Conversely, even strong ideas and well-thought-out research can lose their value if presented in an ineffective manner. Therefore, a skilled researcher is also required to possess excellent communication skills. Writing a scientific paper is not merely a technical activity, but also an art. The entire research process should begin with the formulation of a clear and focused research question (Asghar & Rashid, 2017).

Research is a vital part of the academic world, where researchers strive to produce new findings and enrich existing knowledge. Writing a scientific paper is a crucial stage in this process, serving as a means of communicating research results to fellow researchers and the broader scientific community. Before beginning to write, a researcher needs to understand the context of their contribution, identify the target audience, and consider the role of the reviewers who will assess their work. With this understanding, researchers can determine the appropriate approach and method, and present research results clearly, concisely, and engagingly (Turbek et al., 2016). Furthermore, researchers also have a responsibility to disseminate their research findings through conferences and scientific publications, thereby supporting the advancement of science. Writing a scientific paper requires a combination of technical skills and creativity. This process involves systematic application of methods and techniques in conducting research, collecting data, and analyzing the results, ensuring a high level of precision and accuracy. However, data collection and analysis are not enough. Researchers must also be able to communicate their findings effectively, with clear, concise, and engaging presentations. This is crucial for the scientific community to understand and appreciate the research findings, while also encouraging further research in the same field. In short, a well-written scientific paper plays a crucial role (Chaabouni, 2023).

At first glance, writing a manuscript seems as simple as waiting for new discoveries to be shared. But in reality, knowledge isn't born instantly or without hesitation. It develops slowly, accumulating over time, and requires a constantly updated understanding of context to truly grasp its meaning (Busse & August, 2021). This raises a crucial dilemma: when is the right moment to publish these results? Delaying publication too long or even not publishing at all is a common mistake made by overly cautious individuals. In the interest of ensuring perfect accuracy and completeness, they choose to withhold data from the public. This attitude reflects high ethical standards, but it also demonstrates a lack of regard for the social value of the data and the potential harm to others who would have to repeat the research at additional expense. On the other hand, publishing too soon is also a mistake, especially for those who are less careful and do not fully respect the integrity of the scientific process. Institutional pressure to publish and competition for funding often encourage hasty decisions. Determining the right time to begin writing cannot be answered with a simple rule, as it depends heavily on the individual characteristics of each researcher. However, a wise approach is to begin writing when the main results are already clear. Documenting reliable initial findings helps clarify what has been achieved and indicates what experiments still need to be performed. Delaying writing until all experiments are considered complete is likely to lead to disappointment because important details have been missed, necessitating re-doing the research (Scholz, 2022).

The 20th century is often referred to as the era of the technological explosion, which influenced nearly every aspect of life, particularly education and the learning process. In the context of research and academic freedom, for example, many researchers now visit libraries less frequently because the information they need can be obtained and processed in seconds via the internet (Ibrahim & Ahmed, 2020). This convenience, on the other hand, also encourages the increase in plagiarism practices. In this case, Haleem et al. (2022) the internet is a highly effective means of communication when utilized appropriately. He also emphasized that the internet has become an inseparable part of everyday life and plays a vital role in education. Technology enables the rapid exchange of information between various parties, making the internet a powerful information system. Various groups, from students to

academics conducting scientific research and developing projects, tend to choose the internet because of its ease and speed in accessing information (Addeo et al., 2016). Problems arise when some researchers fail to cite proper sources and instead claim other people's work as their own.

Writing is a vital form of communication. The style and clarity of a scientific manuscript are essential tools for presenting work worthy of publication. Accuracy, clarity, and style are key to skilled data interpretation. Publication (either electronically or in a traditional format) of a good scientific paper leads to satisfactory communication (Behzadi et al., 2013). For students, writing skills not only contribute to academic success but also serve as an important provision for facing today's workplace, which demands strong literacy skills (Chase, 2011). Writing is a complex activity because it involves a combination of fine motor skills and cognitive processes, and reflects the writer's social and cultural context (Fisher, 2012;Myhill & Fisher, 2010). This ability is often considered the most challenging language skill because it relies on mastery of other skills, such as listening, speaking, and reading. Therefore, it is natural that many individuals experience difficulties in writing. Several reports indicate that students' writing skills are still at a low level. This is evident in the many errors they make, such as the use of prepositions and articles, spelling errors, inappropriate sentence structure, inappropriate use of tenses, inappropriate word choice, and problems with composition, omissions, repetition, and coherence between sentences (Swathi et al., 2025). The quality of teaching is a major factor in determining successful writing skills. Furthermore, teachers have negative attitudes toward teaching essay writing and have low writing self-efficacy (Aika, 2020). Other factors include lack of preparation caused by ineffective writing instruction at school level, socio-economic problems, and inadequate reading skills (Chokwe, 2013).

Furthermore Klein & Boscolo (2016) explains that writing has a profound impact on the learning process, from simple things like aiding memory to its role in resolving conceptual problems in various fields of science. As will be explained further, the shift in perspective on writing from merely an individual activity considered generally useful to a process closely linked to a specific disciplinary context is an important foundation for the development of this research. Thus, writing is not a general skill for all situations, but rather a series of activities capable of having a productive impact on knowledge and ways of thinking through its interaction with various fields of science and learning contexts. The role of writing can even be considered more prominent than learning, because writing is essentially integrated with the learning process itself. Research on writing as a means or tool for learning often overlaps with studies on writing practices in academic environments. Almost no form of writing is completely separate from the learning process. This shows that learning is at the heart of writing activities, not only because writing demands high cognitive abilities, but also because the processes that occur within it, such as finding ideas, organizing ideas, reviewing, and revising, are part of the ongoing thinking process itself.

Survey results from research on elementary school teachers by Cutler & Graham (2008) showed that as many as 28% of teachers felt unprepared to teach writing skills. Similar findings emerged in a survey of high school teachers by (Kiuhara & Graham, 2009), where 70% of respondents stated that they had little or no preparation for teaching writing. In addition, a survey in Norway by (Graham et al., 2012) showed that approximately 60% of teachers had low or no preparation. A study involving teachers in Shanghai, Hong Kong, Macau, and Taipei also found that 75% of teachers had minimal or no preparation for teaching writing (Graham & Wong, 2017). In addition, another study from Mulyaningsih et al. (2024) interviews with 138 high school teachers revealed that 35% of them had never published work in academic journals. This condition is influenced by various factors, including: limited time, journal objectives or orientation, low self-confidence, difficulties in conducting online research, approaching retirement age, limited mastery of technology, unfamiliarity with writing, lack of motivation, the need for approval from supervisors, minimal knowledge of article writing, the absence of demands for publication, and limited funds. Therefore, efforts are needed from various parties, especially school residents. For example, subject teacher conferences (MGMP) can also be used to introduce and familiarize teachers with academic publications.

Method

The target of this community service activity is teachers at SMA Negeri 14 Maluku Tengah who need to improve their writing and publishing skills. The activity was held on September 2–5, 2022. The number of teachers participating in the activity was 31 people and this activity was opened directly by the Head of the Institute for Research and Community Service (LPPM) of Pattimura University, Prof. Dr. Melianus Salakory, M.Kes. Geographically, the distance between Pattimura University and SMA Negeri 14 Maluku Tengah is approximately 21.2 km which can be reached by land transportation. This school has a B accreditation status and is led by the Principal, Damaris Manuputty. Further information regarding the school profile can be accessed through the school's official website: https://www.sman14malukutengah.sch.id/. The

location of the community service activity can be seen in Figure 1. In addition, this activity is systematically designed through stages of training, mentoring, and evaluation to ensure that teacher capacity building takes place sustainably. The material provided covers scientific writing techniques, publication strategies in reputable journals, and the use of digital technology in the writing process. This activity is expected to enable teachers to produce high-quality scientific work and contribute to the development of science and improving the quality of education in schools.

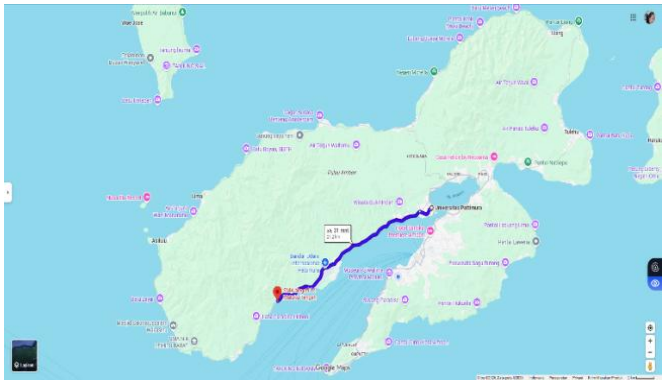


Figure 1. Location of Community Service Activities at State Senior High School 14 Central Maluku

This activity aims to improve teachers' understanding and skills in writing systematic scientific papers, from the pre-writing, writing, and post-writing stages. This competency improvement is expected to assist teachers in composing publishable scientific articles, and to make writing a part of teacher reflection and professional development. As an initial stage, a pretest was conducted to identify participants' initial level of understanding regarding scientific writing. This pretest serves as a diagnostic tool to determine the extent of teachers' knowledge regarding the structure of scientific writing, problem formulation, method use, and techniques for presenting research results. The pretest results are used as a basis for designing training materials to suit the needs of participants. This is in line with the view Berry (2008). The pretest can help map participants' initial readiness and motivate them to participate in the training. The material presented in this activity focuses on the scientific writing process, as described in the article, which includes the pre-writing stages (idea gathering and planning), writing (preparing the initial draft), and post-writing (revision, editing, and publication).

In addition, participants were also given an understanding of the importance of clarity of ideas, systematic writing, and the ethics of scientific publication. The activity was implemented through training and mentoring, which included material delivery, discussion, and hands-on practice in compiling scientific papers. Participants were trained to develop research ideas based on classroom problems, develop writing outlines, and produce drafts of scientific articles. As a follow-up, several participants were asked to present their writing results to encourage discussion, reflection, and collaboration among teachers. Through this activity, it is hoped that there will be an increase in teachers' abilities in writing and publishing scientific papers, as well as the growth of an academic culture within the school environment. Furthermore, this activity also serves as the first step in building a sustainable learning community among teachers, particularly in the field of scientific writing. Following the training, a posttest was conducted to evaluate teachers' increased knowledge and skills in writing scientific papers. The posttest measured the extent of participants' understanding after participating in the training (Shivaraju et al., 2017). The evaluation results showed that: (1) most participants experienced significant improvements in understanding the stages of writing scientific papers, starting from pre-writing, draft writing, to revision and editing; (2) participants were able to compile a framework and produce an initial draft of a scientific article based on learning problems in class. In addition, participants also showed increased confidence in developing and publishing their scientific papers.

In addition, a questionnaire was also provided to participants in the form of a response sheet regarding the four-day training. The questions were about scientific writing and consisted of 11 questions, which participants completed. These questions can be seen in Table 1. The rubric used a Likert scale developed by Likert (1979) the competencies to be measured are broken down into several indicators used to construct an instrument. QuestionsThe Likert scale instrument answers were developed into 4 (four) categories from very positive to very negative with the words: 1) strongly agree (SS), 2) agree (S), 3) disagree (TS), and 4) strongly disagree (STS).

Results and Discussion

In this activity, the material provided covers the systematic stages of scientific writing: pre-writing, writing, and post-writing. These three stages constitute a unified, interrelated and inseparable process. In the pre-writing stage, teachers are not only trained to generate ideas but also guided to critically reflect on classroom learning practices. This process involves identifying real-world problems, formulating research questions, and establishing clear and focused objectives. This stage is crucial because the quality of scientific work is largely determined by the accuracy of problem formulation. Furthermore, teachers are introduced to

techniques for collecting references, conducting literature searches, and developing a logical framework as a basis for writing.

Next, in the writing stage, participants begin to develop their ideas into a cohesive scientific paper. Teachers are trained to systematically structure articles, including a title, abstract, introduction, methods, results, and discussion. At this stage, the emphasis is not only on the technical aspects of writing, but also on the ability to construct logical, data-driven arguments supported by relevant references. Teachers are also taught how to present data clearly and communicatively so that readers can understand the research results well. This process requires critical thinking skills and the ability to organize ideas coherently, which ultimately improves the quality of the resulting scientific paper. Furthermore, key points to keep in mind when writing an abstract to ensure acceptance are explained, as more clearly shown in Table 1.

Table 1. Main points to keep in mind when writing the abstract.

Item	Notes
Background	A brief reminder of the context and a short statement of the main objective. It should be concise and to the point. Typically, two to three sentences are sufficient. Clearly identify the gaps in knowledge that the study aims to address.
Methods	The main methods should be outlined, including: • The main inclusion criteria used to define the population • Description of study groups, if applicable • A very brief description of the main interventions or treatments • The primary endpoint Details should be limited; focus on key defining criteria (eg, adult patients >18 years with septic shock, defined as persistent hypotension despite adequate vascular filling).
Results	Present the main results, including means, odds ratios, p-values, etc., for each group. Start with the primary endpoint results, followed by secondary outcomes. Ensure that results are reported for each method mentioned.
Conclusion	Provide enough detail to support your conclusion. A one-line summary of the main findings is usually sufficient, optionally followed by a brief statement on implications for future research. The conclusion should be directly related to the main objective and endpoint.
References	No references should be included in the abstract.
Discussion	Avoid discussions or judgmental statements in the abstract (eg, phrases like "Surprisingly, we observed...").
Figures	Do not include figures, tables, or other illustrations in the abstract.

Sources: (Ecarnot et al., 2015)

In the post-writing stage, teachers are directed to evaluate their writing. This includes revising content, editing language, and checking for compliance with scientific writing standards. Teachers are also given an understanding of publication ethics, such as the importance of avoiding plagiarism, using correct citations, and selecting appropriate journals for publication. This stage is crucial because it determines the suitability of a scientific work for publication. Furthermore, teachers are introduced to the journal article submission process, including understanding the role of reviewers and the subsequent revision process after receiving feedback. After passing the initial stage, the manuscript will enter the second, more rigorous stage, peer review. At this stage, the manuscript is reviewed by experts in the same field, who have knowledge and experience related to the topic. This process is confidential, and reviewers are always reminded to maintain confidentiality and carry out their responsibilities properly. After the review is complete, the manuscript is returned to the author, usually with suggestions for improvements or may be rejected. Many manuscripts are accepted for publication if the author makes revisions based on the feedback provided. However, some manuscripts are requested to be revised without guarantee of acceptance. The manuscript will be re-evaluated before a final decision is made. Therefore, it is important for authors to understand each stage of the publication process, especially regarding reviewer comments and the revision process. Following the journal's writing guidelines can expedite the review process. Furthermore, it helps produce a better, more understandable, and more coherently structured article.(Reddy, 2011).

Scientific articles generally consist of four main parts. One of the most widely used formats is as described byAlexandrov (2004)namely "IMRaD", a writing structure that includes an introduction (I), methods (M), results (R), and discussion (D). In some cases, the number of sections can be four or five. However, this format has a drawback because it does not include the title, abstract, and author names. NextÖlçücü et al. (2018)explaining that the IMRaD structure should be able to answer important questions, especially in the introduction, namely: (1) why this research is important, (2) what is already known about this problem, (3) what is the research hypothesis, and (4) what is the purpose of the research. In addition, writing a good article must prioritize simplicity and clarity. Writers need to choose the right words so that ideas can

be conveyed clearly and easily understood. The use of simple and short words, compared to more complicated words but with the same meaning, will help readers understand the contents of the article better.(Gemayel, 2016).

Figure 1. One of the training materials about types of research and data analysis

The interactions observed during the training activities demonstrated active discussion and collaboration between teachers, a key characteristic of adult learning (andragogy). Through discussion, participants were able to exchange experiences, share challenges they faced in class, and provide feedback on their colleagues' work.(Tuhurima & Batlolona, 2025)This collaborative process not only enriches students' knowledge but also helps teachers develop a deeper understanding. Furthermore, the interactive atmosphere can increase learning motivation and self-confidence, especially for teachers who previously struggled or lacked confidence in writing scientific papers. A training approach that emphasizes hands-on practice is also a crucial factor in the success of this activity. Teachers not only receive theoretical material but also directly apply it in the form of drafting scientific papers. With direct mentoring, teachers can receive more concrete guidance and solutions to problems encountered during the writing process.

Thus, the activities depicted represent concrete implementations of the concepts presented. Improving scientific writing competency cannot be achieved instantly, but rather through a continuous, systematic process based on real-world experience. Participatory, collaborative, and applied training has been shown to encourage teachers to be more active, reflective, and productive in producing scientific work. Ultimately, these activities not only enhance individual teachers' abilities but also contribute to building an academic culture within the school environment.

Figure 2. Providing Materials to Training Participants

Writing scientific papers is a crucial part of the academic world, serving to convey research results systematically and responsibly. Writing scientific papers requires not only technical skills in structuring the paper but also a good understanding of the use of references. References are the main foundation in building scientific arguments, as every idea conveyed must be supported by theory, research results, or other reliable sources. Therefore, the quality of scientific papers is largely determined by the accuracy in selecting and using references. Furthermore, the use of correct citations is part of academic ethics that must be upheld by every writer. The article emphasizes the importance of avoiding plagiarism, which is the act of taking someone else's work without citing the source. The study results show that journals are the most cited source, contributing 37.14% of the total citations, followed by books with 33.14%.(Simisaye, 2009). In addition, another study from Aristotle University of Thessaloniki, one of the largest universities in Greece, among the software, Mendeley was found to be the software used by more than two-thirds of users, followed by EndNote and Zotero. It is worth mentioning that Mendeley is the software officially recommended by the University's central library to its users.(Nitsos et al., 2021). Besides that,Gordon et al. (2018)found that the reference management systems used by academic chemists include EndNote (30.1%), Mendeley (24.0%), Papers (11.4%), and Zotero (9.2%). Furthermore, field findings indicate that in writing scientific papers, many still use citation sources from national scientific books and journals, while foreign journals are still rarely found in the content of the writing.

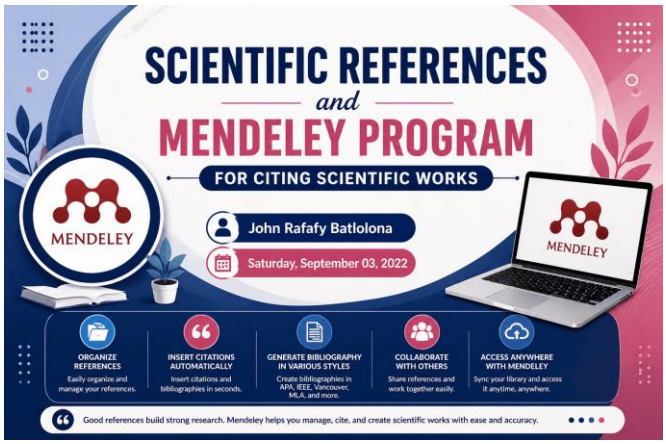


Figure 3. Presentation of Material for the Session on Citation of Scientific Works with Mendeley

While easy access to information via the internet significantly aids researchers in quickly obtaining references, it also increases the risk of violating academic ethics if sources are not properly cited. Therefore, authors must be able to manage references effectively to ensure their scientific work maintains high credibility and integrity. In the process of writing a scientific paper, references are used from the beginning to the end. In the pre-writing stage, authors conduct a literature search to identify ideas and develop a framework. In the writing stage, references are used to strengthen arguments and support data analysis. Meanwhile, in the post-writing stage, authors need to ensure that all citations are written correctly and in accordance with scientific writing conventions. This process demonstrates that references are not merely complementary but an integral part of the overall writing of a scientific paper.

As technology advances, the use of reference management applications like Mendeley has become an effective solution for helping authors manage their library resources. This application allows authors to store various references, organize documents, and automatically insert citations and bibliographies according to their desired writing style. Before using Mendeley for citations, teachers are instructed to create an account on the page:https://www.mendeley.com/.

Table 1. Teachers' responses to scientific writing training

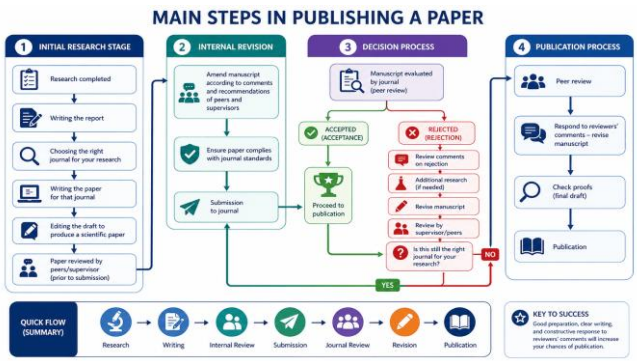
Code	Statement	Percentage (%)
Q1	The training materials helped me understand the characteristics of high-quality scientific papers.	95
Q2	I understand the structure of writing scientific papers (title, abstract, introduction, methods, results, discussion, bibliography) better.	98
Q3	The training improved my ability to construct logical, data-based scientific arguments.	85.5
Q4	I understand the correct techniques for writing citations and bibliographies.	87.9
Q5	I understand how to avoid plagiarism in writing scientific papers.	67.5
Q6	The training helped me understand the process of publishing papers in journals or proceedings.	97
Q7	I know the criteria for a reputable journal or publication media.	67.8
Q8	I feel more confident to write and submit scientific papers for publication.	57.5
Q9	The examples and practices in the training helped me produce a draft of a scientific paper.	77.8
Q10	This training is relevant to my professional development needs as a teacher.	87
Q11	I am ready to follow up this training by writing and publishing scientific papers.	85

Description (Q):
1. The training materials helped me understand the characteristics of high-quality scientific papers.
2. I understand the structure of writing scientific papers (title, abstract, introduction, methods, results, discussion, bibliography) better.
3. The training improved my ability to construct logical, data-based scientific arguments.
4. I understand the correct techniques for writing citations and bibliographies.
5. I understand how to avoid plagiarism in writing scientific papers.
6. The training helped me understand the process of publishing papers in journals or proceedings.
7. I know the criteria for a reputable journal or publication media.
8. I feel more confident to write and submit scientific papers for publication.
9. The examples and practices in the training helped me produce a draft of a scientific paper.
10. This training is relevant to my professional development needs as a teacher.
11. I am ready to follow up this training by writing and publishing scientific papers.

With the help of this technology, the writing process becomes more efficient, citation errors are minimized, and authors can focus more on developing research content. Overall, this article emphasizes that success in scientific writing is determined not only by the research content but also by the author's ability to manage references and apply proper writing ethics. With the support of technology like Mendeley, authors can produce scientific papers that are more structured, credible, and worthy of publication. Based on the data in Table 1 showing teachers' responses to the scientific writing training, it can be seen that the level of achievement of teacher responses is in the range of 57.5%

to 98%. In general, the majority of indicators show high results. The highest values are in Q2 (98%) and Q6 (97%), followed by Q1 (95%), Q4 (87.9%), Q10 (87%), Q3 (85.5%), and Q11 (85%). This high achievement indicates that the training provided is effective in improving teachers' understanding and readiness in writing scientific papers, both from conceptual and practical aspects. However, there are several indicators with relatively lower achievements, namely Q5 (67.5%), Q7 (67.8%), and especially Q8 (57.5%).

These results indicate that difficulties remain in certain aspects, likely related to technical skills such as developing research methodologies, using citations and references, or developing logical and systematic scientific arguments. This variation suggests that while the training has had a generally positive impact, reinforcement in certain areas is still needed to ensure teachers' competencies develop evenly and sustainably. Therefore, follow-up measures in the form of intensive mentoring, advanced training, and ongoing practice are necessary to ensure that acquired skills can be continuously improved and optimally implemented in scientific writing activities. This finding aligns with the opinion ofTaye & Mengesha (2024)which states that writing skills cannot develop instantly, but rather require continuous practice and a systematic learning strategy. Essentially, writing is not just a technical skill but a creative process that empowers individuals to communicate effectively, share ideas, and contribute meaningfully to discussions and knowledge sharing. Furthermore,Gemnafle et al. (2018)emphasized that the success of teacher training is highly dependent on follow-up and implementation in real practice. This is also reinforced byDarling-Hammond et al. (2019)which states that teacher professional development will be more effective if carried out continuously, collaboratively, and contextually. Thus, scientific writing training has a positive impact on improving teacher competence, but further efforts such as intensive mentoring, advanced training, or ongoing practice are still needed.



Adaptation: SDT (Society of Dairy Technology)

Figure 4. Main steps in publishing a paper

During the question and answer session, several teachers asked about writing scientific papers. One teacher stated that journal articles are challenging because the school environment doesn't facilitate this. Teachers generally only write scientific papers for rank proposals and usually train students to write essays and other good scientific papers. Furthermore, writing journal articles requires significant costs to publish in reputable journals. The participants' active participation in the discussion and enthusiasm in writing simple scientific papers are indicators that this activity is able to foster a scientific culture in the academic environment, especially in schools. If this activity is carried out continuously, it is hoped that a community of productive student scientific writers will emerge. Teachers' levels of technological proficiency vary, particularly in the use of reference management applications (Mendeley). Some participants still require intensive guidance to develop outlines into complete articles. The implication of this activity is that the success of this training has important implications, namely the need for continued scientific writing training programs at the high school level.

Figure 5. Question and Answer Session by Teachers

At the end of the activity, a closing ceremony was held, officially closed by the principal, who expressed his appreciation for the four-day activities. Participants also expressed their gratitude for the excellent materials provided to help them develop their future scientific papers. A group photo session was held at the end of the training, a meaningful closing moment that left a lasting impression on all participants. The event was attended by teachers, resource persons, and committee members, demonstrating a sense of togetherness after completing the entire series of training sessions that lasted for several days. This moment not only served as documentation of the activity but also symbolized the successful implementation of the community service program, which had run smoothly and well. The atmosphere created during the group photo session was

full of intimacy, happiness, and pride from the participants who had actively participated in every stage of the activity. Furthermore, this session also represented the development of social and professional relationships among participants and between participants and resource persons. The interactions that had previously existed during the training activities were further strengthened through this shared moment, so it is hoped that this can continue in the form of collaboration in the future. The group photo documentation also has important value as an archive of activities that can be used as evidence of program implementation and institutional publication materials. Furthermore, this moment can be a source of motivation for teachers to continue developing their competencies, particularly in writing and publishing scientific papers. Thus, the group photo session not only served as a symbolic closing of the event but also left a positive impression and a lasting encouragement for all participants to continue working and contributing to the world of education.

Figure 6. Group photo session after the training activity

Conclusion

The community service program for teachers at State Senior High School 14, Central Maluku, significantly improved their professional competence, particularly in the writing and publication of scientific papers. The multi-day program, incorporating training, mentoring, and evaluation, proved effective in helping participants gain a deeper understanding of the systematic and academically sound process of writing scientific papers. The material provided was not only theoretical but also practical, enabling teachers to directly practice the acquired skills. The participation of 31 teachers demonstrated a clear need for capacity building in this area and reflected the participants' high level of enthusiasm. Support from Pattimura University through the Institute for Research and Community Service (LPPM) strengthened the quality of the program, both in terms of resource persons and program management. Furthermore, the involvement of the school was a contributing factor to the success of this program. Overall, this program not only improved teachers' understanding and skills in scientific writing but also fostered an academic culture within the school environment. By developing the ability to publish scientific papers, teachers are expected to contribute to the development of science, improve the quality of learning, and support the ongoing development of their professional careers. Therefore, similar activities are very important to continue to be implemented continuously to maintain and improve the quality of education in the region.

References

Addeo, B. F., Paoli, A. D., Esposito, M., & Bolcato, M. Y. (2016). Doing social research on online communities : the benefits of netnography. *Athens Journal of Social Sciences*, *7*(1), 9–38.

Aika, I. O. (2020). Teaching writing in Nigerian secondary schools : teachers ' attitude toward the teaching of writing and their writing. *Journal of Teaching and Teacher Education*, *8*(1), 39–51.

Alexandrov, A. V. (2004). How to write a research paper. *Cerebrovascular Diseases*, *18*(2), 135–138. https://doi.org/10.1159/000079266

Asghar, K., & Rashid, M. U. (2017). Review article how to write a scientific research paper. *Journal of Cancer & Allied Specialties*, *3*(3), 1–7.

Behzadi, E., Behzadi, P., & Ranjbar, R. (2013). ABC ' s of Writing Scientific Paper. *Anu; X*, *33*(1), 6–7.

Berry, T. (2008). Pre-test assessment. *American Journal of Business Education*, *1*(1), 19–22.

Busse, C., & August, E. (2021). How to write and publish a research paper for a peer-reviewed journal. *Journal of Cancer Education*, *36*, 909–913.

Chaabouni, F. B. M. (2023). The art of writing a scientific paper. 1–10.

Chokwe, J. M. (2013). Factors Impacting academic writing skills of english second language students. *Mediterranean Journal of Social Sciences*, *4*(14), 377–384. https://doi.org/10.5901/mjss.2013.v4n14p377

Cutler, L., & Graham, S. (2008). Primary grade writing instruction : a national survey. *Journal of Educational Psychology*, *100*(4), 907–919. https://doi.org/10.1037/a0012656

Darling-hammond, L., Flook, L., Cook-harvey, C., Barron, B., Flook, L., Cook-harvey, C., Barron, B., Darling-hammond, L., Flook, L., Cook-harvey, C., & Barron, B. (2019). Implications for educational

practice of the science of learning and development. *Applied Developmental Science*, *0*(0), 1–44. https://doi.org/10.1080/10888691.2018.1537791

Ecarnot, F., Seronde, M., Chopard, R., Schiele, F., & Meneveau, N. (2015). ScienceDirect Writing a scientific article : A step-by-step guide for beginners. *European Geriatric Medecine*, *6*(6), 1–7. https://doi.org/10.1016/j.eurger.2015.08.005

Fisher, R. (2012). Teaching writing : a situated dynamic. *British Educational Research Journal*, *38*(2), 299–317.

Gemayel, R. (2016). How to write a scientific paper. *The FEBS Journal*, *283*(21), 3882–3885.

Gemnafle, M., Waimuri, S. P., & Batlolona, J. R. (2018). Organizational climate of the school and teacher performance improvement in the 21 st century. *International Journal of Science and Research (IJSR)*, *7*(2), 119–126. https://doi.org/10.21275/ART20179865

Gordon, I. D., Meindl, P., White, M., Szigeti, K., Gordon, I. D., Meindl, P., White, M., Szigeti, K., White, M., Ian, K. S., Gordon, D., Meindl, P., White, M., Szigeti, K., & Gordon, I. D. (2018). Information seeking behaviors, attitudes, and choices of academic chemists academic chemists. *Science & Technology Libraries*, *37*(1), 1–22. https://doi.org/10.1080/0194262X.2018.1445063

Graham, S., Mckeown, D., Kiuhara, S., Harris, K. R., Graham, S., Mckeown, D., Kiuhara, S., & Harris, K. R. (2012). A meta-analysis of writing instruction for students in the elementary grades a meta-analysis of writing instruction for students in the elementary grades. *Journal of Educational Psychology*, *104*(4), 879–896. https://doi.org/10.1037/a0029185

Graham, S., & Wong, P. M. (2017). Teaching writing in grades 7–9 in urban schools in chinese societies in asia. *Reading Research Quarterly*, *53*(4), 1–35. https://doi.org/10.1002/rrq.213

Haleem, A., Javaid, M., Asim, M., & Suman, R. (2022). Understanding the role of digital technologies in education : A review. *Sustainable Operations and Computers*, *3*, 275–285. https://doi.org/10.1016/j.susoc.2022.05.004

Ibrahim, M. E. E., & Ahmed, S. A. E. (2020). Negative impact of online resources on research writing from teachers' and students' perspective, at king khalid university: a case study of 4th year students, in the department of english language, college of science and arts, King Khalid University, Tan. *International Journal of English Language and Linguistics Research*, *8*(1), 42–53.

Kf, A., Bob, L. F., & Jo, D. C. (2022). Writing a scientific manuscript : A step-by-step guide for beginners 2 . Getting Started : What to Do Before Writing a Word. *The JYR- The Journal for Young Researcher*, *1*(1), 3–16.

Kiuhara, S. A., & Graham, S. (2009). Teaching writing to high school students : a national survey. *Journal of Educational Psychology*, *101*(1), 136–160. https://doi.org/10.1037/a0013097

Klein, P. D., & Boscolo, P. (2016). Trends in research on writing as a learning activity. *Journal of Writing Research*, *7*(3), 311–350. https://doi.org/10.17239/jowr-2016.07.03.01

Likert, R. (1979). From Production- and Employee-Centeredness to Systems 1-4. *Journal of Management*, *5*(2), 147–156.

Mulyaningsih, I., Azmi, N., Rochmansyah, B. N., & Priajana, N. (2024). Indonesian language teachers' skills to write academic articles in reputable journals. *Ranah: Jurnal Kajian Bahasa*, *13*(1), 196–215.

Myhill, D., & Fisher, R. (2010). Research in Reading Editorial : Writing development : cognitive , sociocultural , linguistic perspectives. *Journal of Research in Reading*, *33*(1), 1–3. https://doi.org/10.1111/j.1467-9817.2009.01428.x

Nitsos, I., Malliari, A., & Chamouroudi, R. (2021). Use of reference management software among postgraduate students in Greece. *Journal of Librarianship and Information Science*, 1–13. https://doi.org/10.1177/0961000621996413

Ölçücü, M. T., Aydın, S. Ü., & Özgök, Y. (2018). How to write and publish a scientific article. *Journal of Urological Surgery*, *5*(2), 63–67. https://doi.org/10.4274/jus.1623

Osman, H. I., Elgamel, A. A., Abdulhalim, M., Neimat, A., Bashir, E., & Elgamel, D. (2021). Brief guide to writing a scientific paper. *International Journal of Research Publications*, *175*(10), 1138–1141.

Reddy, V. (2011). Scientific article writing : an overview. *Journal of the Indian Orthodontic Society*, *45*(1), 1–4.

Scholz, F. (2022). Writing and publishing a scientific paper. *ChemTexts*, *8*(1), 1–7. https://doi.org/10.1007/s40828-022-00160-7

Shivaraju, P. T., Manu, G., Vinaya, M., & Savkar, M. K. (2017). Evaluating the effectiveness of pre- and post-test model of learning in a medical school. *National Journal of Physiology, Pharmacy and Pharmacology*, *7*(9), 947–951. https://doi.org/10.5455/njppp.2017.7.0412802052017

Simisaye, A. O. (2009). Citation analysis of journal of library and information science (2004-2009). *Brazilian Journal of Information Science*, *4*(1), 35–60.

Swathi, M., Ramesh, M., Sathyaseelan, T., Muralikrishnan, S. S., Pettela, R., & Arun, G. (2025). Factors influencing students ' performance in second language writing skills. *World Journal of English Language*, *15*(5), 189–207. https://doi.org/10.5430/wjel.v15n5p189

Taye, T., & Mengesha, M. (2024). Identifying and

analyzing common English writing challenges among regular undergraduate students. *Heliyon*, *10*, 1–13. https://doi.org/10.1016/j.heliyon.2024.e36876

Tuhurima, D., & Batlolona, J. R. (2025). Building science teachers ' conceptual understanding with PhET simulation. *Unram Journal of Community Service*, *6*(3), 718–725. https://doi.org/10.29303/ujcs.v6i3.1214

Turbek, S. P., Chock, T. M., Donahue, K., Havrilla, C. A., Oliverio, A. M., Polutchko, S. K., Shoemaker, L. G., & Vimercati, L. (2016). Scientific writing made easy: a step-by-step guide to undergraduate writing in the biological sciences. *Bulletin of the Ecological Society of America*, *97*(4), 417–426