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DEVELOPMENT OF TEACHER PROFESSIONAL COMPETENCIES: TRAINING AND ASSISTANCE IN SCIENTIFIC WORK WRITING FOR JUNIOR HIGH SCHOOL TEACHERS IN MUARA ENIM DISTRICT

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Abstract

TEACHER PROFESSIONAL COMPETENCE DEVELOPMENT: SCIENTIFIC WORK WRITING TRAINING AND ASSISTANCE FOR SMP TEACHERS IN MUARA ENIM DISTRICT This service activity aims to make junior high school teachers in Muaraenim Regency have the ability to write scientific papers. In addition, this activity is also part of their professional development activities. The methods used are presentations, discussions, demonstrations, and recitations, and joint corrections, and revisions. Presentations, discussions, and demonstrations are intended to provide knowledge and insight along with concrete examples of the provisions of writing scientific papers in detail, section by section; also given an example of how to turn a research report into a paper or article that is ready to be published in a scientific journal. Recitation or assignment is a practice activity to make or change the form of research reports into scientific papers and scientific journal articles. This exercise is done individually and the results are discussed online via zoom or google meeting. Each participant was asked to present their work and then corrected it together by colleagues and instructors. Based on these corrections, the participants then revise their work so that they become scientific papers and/or articles that are ready to be sent/printed. The results of the service showed that there was an increase in learning outcomes from training and mentoring in writing scientific papers for 19 participants. At the beginning and end of the activity, a test was conducted in the form of self-reflection on aspects of scientific writing. The result is that there is an increase in the participant's ability to write rich scientifically before and after the activity with an N-gain of 0.58 which means moderate.

Keywords: High School, Scientific Work, Writing Procedure.

INTRODUCTION

The quality of education, particularly at the school level, is influenced by the role of teachers. Therefore, a teacher must possess competencies as a benchmark for their ability to fulfill the duties of a teacher, as a requirement to be deemed capable by society in carrying out these responsibilities. One of the competencies that a teacher must possess is professional competence. This professional competence is closely related to the ability to write academic

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works (Rahyasih, Hartini, & Syarifah, 2020). As examined in this service project, the team aims to strengthen teachers' potential in the field of professional competence through training and mentoring in academic writing for teachers in the Muara Enim Regency.

For teachers, the ability to create and compose academic works becomes a measure of their competence, particularly in their professional competence. Academic work itself, as defined by Djuroto and Supriyadi (2017), refers to a series of writing activities based on research results, systematically conducted through scientific methods to obtain scientifically-grounded solutions to previously identified problems. Academic work represents a scientific contribution presenting general facts, composed with a methodologically sound writing approach, verifiable for its accuracy (Indrawati et al., 2022; Sholikhah, 2017; Zm, Muntari, & Jufri, 2018).

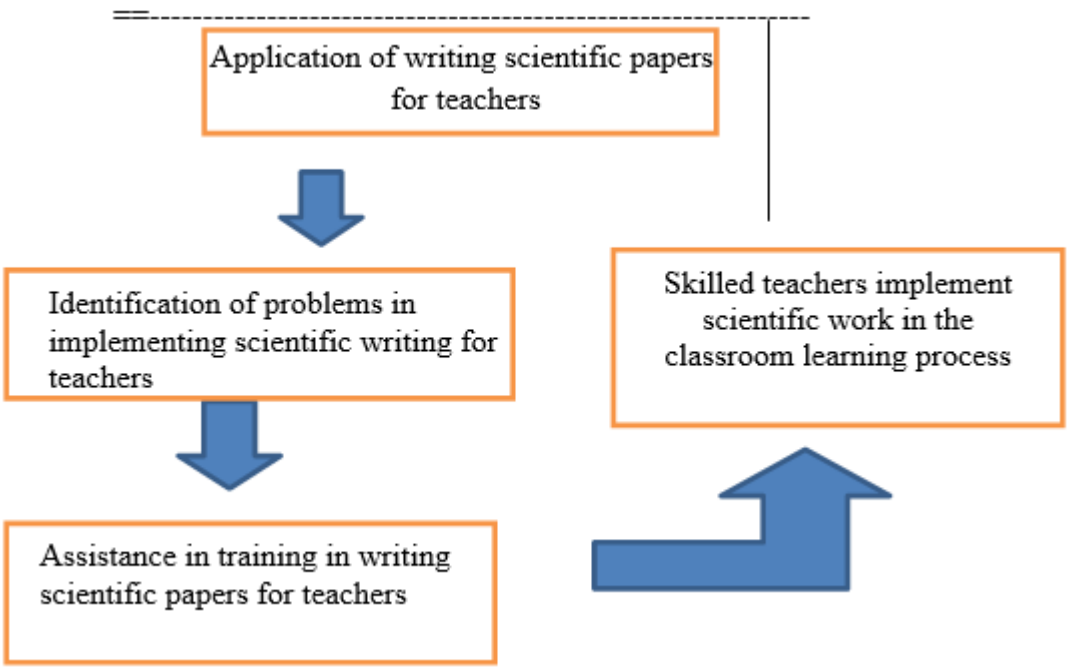
From this, it can be inferred that there exists a close relationship between teachers and academic work, given that a professional teacher is expected to be capable of producing academic work as part of their professional competence. Willis [3] stated that a teacher is considered professional if they can effectively manage themselves in performing their daily tasks. In the context of this community engagement initiative, the form of mentorship provided by the team involves directing the professional activities of the teacher manifested in academic work, such as Classroom Action Research (CAR), experimental research, or qualitative studies.

The initial research through interviews conducted with several junior high school teachers in Muara Enim Regency revealed the following preliminary findings. Firstly, the majority of teachers have not received training in academic writing, especially in the context of Indonesian language learning. Secondly, there is a recognized need for training in academic writing as an effort to enhance teachers' professionalism. Thirdly, these teachers express a strong desire for guidance in academic writing to harness their potential in professional competence.

This mentorship program offers an intensive training approach in academic writing for teachers in Muara Enim Regency. The activities encompass: (1) structured delivery of content by the team; (2) comprehensive material simulation; (3) guidance on crafting accurate, precise, and complete academic work. These activities are conducted in a blended format, commencing with in-person sessions and continuing in an online format. In alignment with this, the following objectives are formulated: (1) Participants acquire adequate knowledge and insight into academic writing. (2) Participants develop skills in producing high-quality and comprehensive academic work. (3) Participants are able to design scientific research by utilizing the classroom learning process.

Based on the situational analysis, problem identification, and problem-solving framework in mentoring academic writing for junior high school teachers in Muara Enim Regency, the proposed problem-solving framework for the development of teachers' professional competence is outlined as follows: (1) Academic writing training for teachers. (2) Simulation and experimentation in academic writing. (3) Evaluation of the training provided to teachers to identify challenges faced by them in creating academic work.

This can be observed from the problem-solving framework diagram below.



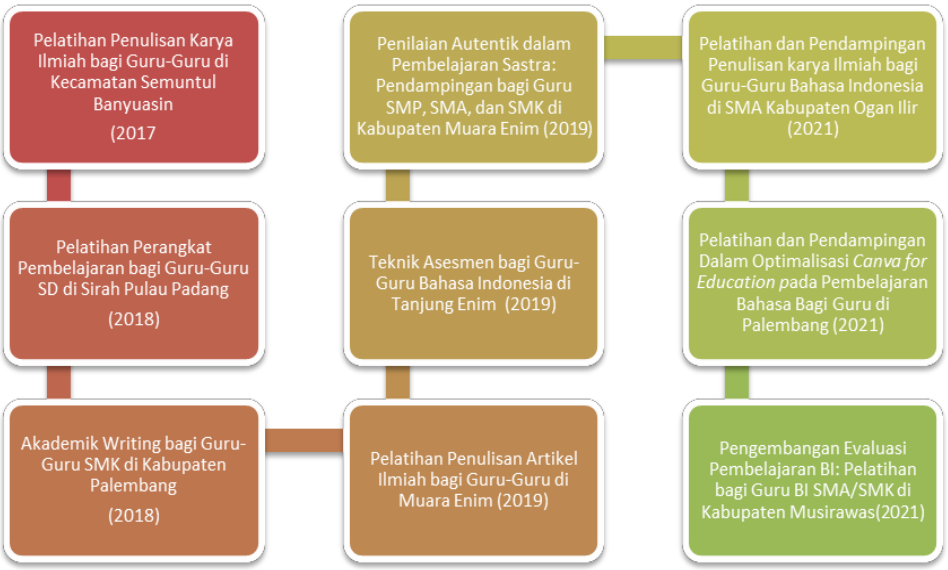
Thinking Framework Chart for Scientific Writing Training for Teachers

The activities within this problem-solving method mirror both research and community engagement endeavors. The outcomes of community engagement demonstrate that academic writing has become an integral and essential component for teachers (Setiawan & Tri, 2018). Findings from engagement research have shown that the enthusiasm displayed by teachers as participants has underscored the crucial need for training in academic writing, particularly in scholarly articles, for educators (Trisnawati & Setiawan, 2019; Novitasari, 2019; Aina et al., 2015; Gunawan et al., 2019; Ilfiandra et al., 2016; Aisyah & Maharani, 2017).

Similar activities were also carried out by Hadiyati, H., Fatkhurahman, F., & Suroto, B. (2017). The results of this engagement indicated that training in academic writing can serve as a motivational factor for teachers in their professional development. Another engagement initiative was conducted by Purnomo et al. (2019), targeting high school teachers in the cities of Lubuklinggau and Musirawas Regency, South Sumatra Province, focusing on training in creating authentic assessments. This initiative showed an improvement in abilities before and after the training at a moderate level (N-gain 0.56).

Another similar engagement activity, by Indrawati et al. (2019), involved training and workshops focusing on text-based teaching materials for high school teachers in Musirawas Regency, South Sumatra Province. This effort resulted in completed products by the training participants, such as Student Worksheets (LKPD), handouts, brochures, or leaflets.

This engagement initiative serves as a follow-up to previous research/community engagement activities. This can be observed from the following roadmap.



Road Map Pengabdian

The aforementioned roadmap demonstrates the team's focus and dedication in enhancing the potential and professionalism of junior and senior high school teachers, particularly in the regions of South Sumatra. In connection to teacher professionalization, the contribution or benefits of the community engagement activities for a teacher relate to conceptual aspects, practical domains, and even extend to policy or social effects. The benefits/significance can be observed from one or several of the following aspects: (1) Theoretical benefit involves verifying existing theories, providing clarity to theories, or proving the validity of a theory (2) Practical benefit entails offering alternative contributions or solutions in addressing specific problems, such as in classroom teaching (3) Policy-related benefit addresses formal policy developments in the studied field, presenting data indicating the frequency and critical nature of the identified issues, enabling the implementation of research findings (4) Societal issue and action significance emphasize that research can serve as a tool to enlighten life experiences by providing insights and supporting actions. Based on these components, it can be asserted that the relevance of research for a teacher is extensive, contributing not only theoretically but also encompassing broad and long-term practical domains."

METHOD

The target audience for the community engagement activities comprises Indonesian language teachers from junior high schools in Muara Enim Regency, who will be the focus of this community engagement initiative by the team. The team will specifically train 19 teachers from various private and public junior high schools in Muara Enim Regency. The participants are expected to become agents capable of disseminating the acquired information and knowledge, beneficial for the learning process in their respective schools.

The execution method of this community engagement initiative includes: (1) Structured content delivery by the team covering academic writing concepts, academic paper composition, and notably, academic paper publication. (2) Comprehensive material simulations linked to the research conducted by teachers, whether it be Classroom Action Research (CAR) or other forms. (3) Mentoring activities involving assignment of academic writing and revision tasks by the participants and the engagement team. (4) Guidance on producing accurate, precise, and complete academic work. These activities are conducted in a blended format, commencing with in-person sessions and continuing online. (5) Follow-up actions subsequent to the completion of academic work involve academic publication.

Evaluation of the activities employs tests and observation sheets: (1) Two tests will be administered to the participants: a pre-training test (prior to the training implementation) and a post-training test (following the training implementation). The pre-training test aims to assess the initial knowledge and capabilities of junior high school Indonesian language teachers in Muara Enim Regency regarding academic writing. The post-training test aims to gauge the teachers' mastery in academic paper composition. (2) Observation sheets are utilized to assess the implementation of research in the prepared learning processes by the target audience, examining whether they have been designed effectively and can be executed in Indonesian language teaching in an engaging and effective manner. The Assessment of Teachers' Ability in Making Teaching Media format will be employed for this purpose. Subsequently, teachers can be guided through WhatsApp groups, email, or Zoom meetings.

Evaluation is used to determine their understanding improvement before and after the activities. Assessment sheets are completed twice: before and after the activity implementation. The results are then compared based on each teacher's total score and their calculated average, along with the examination of the normalized gain scores. Additionally, the frequency of scores 4, 3, 2, and 1 is also analyzed.

Duration and schedule: The community engagement initiative spans over 8 months, encompassing preparation, execution, and reporting. The training for teachers will take place across a 3-month period.

FINDINGS AND DISCUSSION

Participants' Abilities Before the Activity

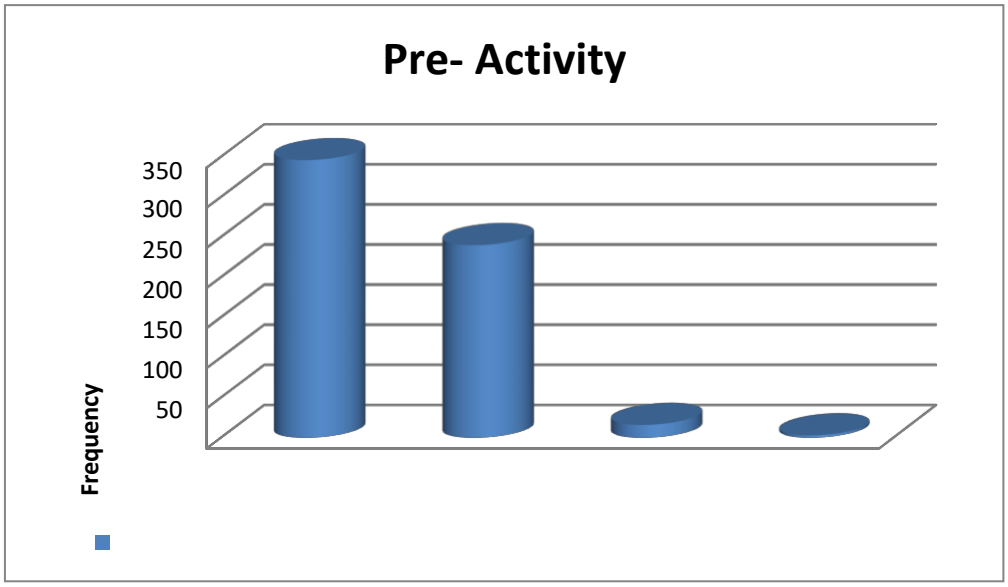
Participants' abilities are assessed by requesting them to fill out a self-evaluation form based on their knowledge, experiences, or perceptions. Their filled-out forms are then scored and their values are determined accordingly. The participants' abilities before the implementation of the activity can be observed in the following Table 2.

Table 2: Participants' Abilities Before the Activity

Sequence Number	Participants's number	Score
1	01Aw	55
2	02Aw	68.75
3	03Aw	75
4	04Aw	75
5	05Aw	75
6	06Aw	67.5
7	07Aw	65
8	08Aw	65
9	09Aw	58.75
10	10Aw	61.25
11	11Aw	54
12	12Aw	55
13	13Aw	68.75
14	14Aw	75
15	15Aw	75
16	16 Aw	76
17	17 Aw	67.5
18	18 Aw	65
19	19 Aw	65
Average		**67,3**
SD		**7,56**

From the table, the following observations can be made. The highest score is 76, the lowest score is 54, the average score is 67.3, with a standard deviation of 7.56. This indicates that participants' knowledge regarding authentic assessment needs improvement, even though the average score falls within the 'sufficient' category. With an SD of 7.57, it can be inferred that the variation or variability in participants' scores is moderate.

As mentioned earlier, participants were asked to self-assess their abilities on topics related to academic writing. They were required to determine whether they understood the topics very well, well, less well, or not at all, and were given scores of 4, 3, 2, and 1, respectively. There were 32 items for self-assessment, and 19 teachers were involved in self-assessment, totaling 570 items with scores of 4, 3, 2, and 1.



If we calculate the frequency of scores 4, 3, 2, and 1 among the 19 respondents for the 32 topics, it can be observed in the following diagram.

0	Unable	Less fortunate	Capable	Very capable
Series	346	240	16	3

Figure 1: Frequency of Scores 4, 3, 2, and 1

The figure demonstrates that the percentage frequency of the appearance of score 4 (highly capable) reached 3 instances, score 3 (capable) reached 16 instances, score 2 (less capable) totaled 240 instances, and score 1 (unable) amounted to 346 instances.

Participants' Abilities After the Activity`

The participants' abilities after the activity can be observed in Table 2 on the following page. From the table, it is evident that the highest score is 96, the lowest score is 72.50, the average score is 86, with a standard deviation of 8.56. This indicates that, based on the average score, the participants' abilities can be categorized as good or capable.

Tabel 2: Participants' Abilities After the Activity`

Sequence Number	Participations' Number	Score
1	01Ak	92.5
2	02Ak	90
3	03Ak	87.5
4	04Ak	96
5	05Ak	95
6	06Ak	80
7	07Ak	82.5
8	08Ak	91.25
9	09Ak	75

10	10Ak	75
11	11Ak	72.5
12	12 Ak	90
13	13 Ak	87.5
14	14 Ak	95
15	15 Ak	95
16	16 Ak	80
17	17 Ak	82.5
18	18 Ak	91.25
19	19 Ak	75
Average		**86**
SD		**8,55**

Considering the frequency of the appearance of scores 5, 4, 2, and 1, it is visible in the graph below

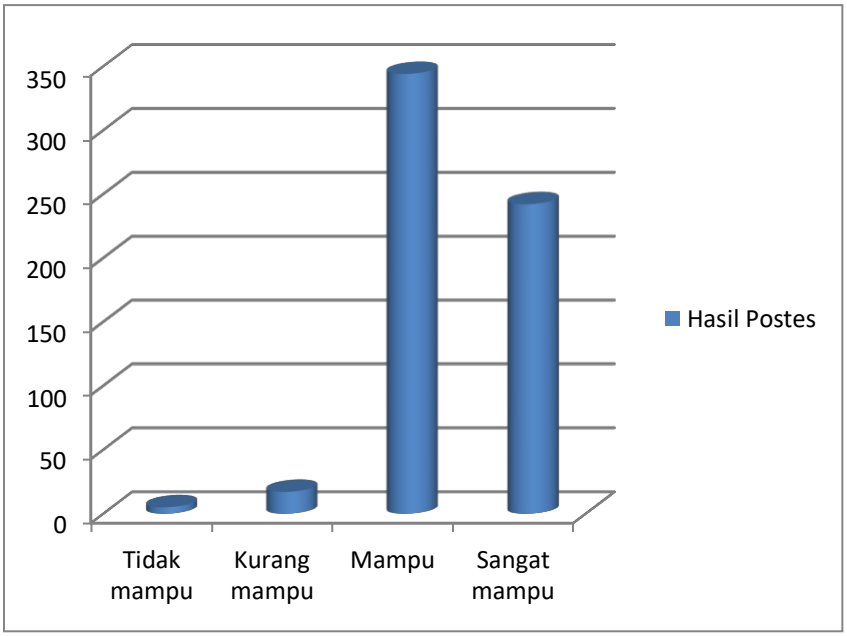


Figure 2: Frequency of Scores 4, 3, 2, and 1

The figure illustrates that the percentage frequency of score 4 (highly capable) reached 242 instances, score 3 (capable) reached 344 instances, score 2 (less capable) amounted to 17 instances, and score 1 (unable) totaled 5 instances.

Comparison of Participants' Abilities Before and After the Activity

When comparing the participants' scores before and after the activity, it is shown in the following table.

Table 3: Participants' Scores Before and After Training

Participants' s number	Score before	Score after	*GAIN*	*N-GAIN*
01	55	92.5	35	0.85
02	68.75	90	6.25	0.20
03	75	87.5	20	0.72
04	75	96	16.25	0.65
05	75	95	20	0.70
06	67.5	80	5	0.15
07	65	82.5	17.5	0.66
08	65	91.25	22.5	0.64
09	58.75	75	16.25	0.39
10	61.25	75	18.75	0.48
11	54	72.5	37.5	0.84
12	55	90	35	0,78
13	68.75	87.5	18,75	0,48
14	75	95	20	0,70
15	75	95	20	0,70
16	76	80	14	0,27
17	67.5	82.5	15	0,30
18	65	91.25	26,25	0,75
19	65	75	10	0,24
Average	67,3	86	19,9	0.56

From the table, it can be seen that in general, the participants' scores have increased when compared to their scores before the activity. The average N-gain obtained by the participants is 0.56, falling within the moderate category. This means that the level of improvement in participants' scores between before and after the activity is moderate, neither high nor low.

CONCLUSION

Based on the results and discussions, the following conclusions can be drawn:

Firstly, participants' understanding and views on academic writing before attending the training were moderate. The highest score was 76, the lowest was 54, with an average score of 67.3 and a standard deviation of 7.56. This indicates that participants' knowledge of authentic assessment needs improvement, even though it falls within the 'sufficient' category based on the average score. With an SD of 7.57, it can be inferred that the variation in participants' scores is moderate. When related to the ability to design, implement, and follow up on these

results, it can be said that it has not yet met expectations.

Secondly, participants' understanding after the training session was good. This is evident from the highest score of 96, lowest score of 72.50, an average score of 86, and a standard deviation of 8.56. This means that, based on the average score, the participants' abilities can be categorized as good or capable.

Thirdly, in comparison with their initial abilities, it can be said that there was an increase in the participants' mean score. Generally, the participants' scores increased compared to before the activity. The average N-gain obtained by the participants was 0.56, falling within the moderate category. This indicates a moderate level of improvement in participants' scores between before and after the activity, neither high nor low. This is because the training included information dissemination, discussions, and individual work.

The writing of academic articles can provide many benefits for these teachers, including developing skills in effective reading, synthesizing information from various sources, and introducing them to library activities. However, the teachers' abilities still need improvement in designing, implementing, and following up on academic writing, especially in writing academic articles. The overall evaluation results indicate that the interest and motivation of teachers in learning are lacking, considering the commitment and seriousness required for finalizing academic article writing."

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