Scientific Writing Training as an Effort to Improve Literacy

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Abstract. Literacy rate, evidenced by the minimal number of written works produced by its residents. To address this issue, particularly among educators and students, we proposed a community service program aimed at enhancing literacy skills in scientific writing. This program was designed to provide socialization and assistance in writing for students and educators in one of the schools in Bangkalan Regency. The objective of this community service program is to improve the scientific writing skills of educators and students. The implementation process begins with socialization sessions covering the necessary preparations for writing scientific works, essential elements of scientific writing, and the use of Mendeley. These socialization sessions were conducted three times, followed by a mentoring process where our team assisted participants until they produced scientific papers ready for publication. The community service program concluded with participants completing a questionnaire to evaluate their responses to the program. As a result of these activities, ten written works were produced, ready for publication in journals or print media. Questionnaire results indicate that 95% of participants felt motivated to write scientific papers, and 100% responded positively to the community service activities.

Keywords: Scientific Writing Training, Literacy

Kata kunci: Pelatihan penulisan karya tulis, Literasi

Abstrak. Bangkalan termasuk salah satu Kabupaten di Jawa Timur yang memiliki riwayat rendah dalam hal literasi. Salah satunya dibuktikan dengan masih minimnya karya tulis yang dihasilkan oleh penduduk Bangkalan. Sebagai upaya mengatasi minimnya karya tulis yang dihasilkan penduduk Bangkalan, khususnya kalangan pendidik dan peserta didik maka kami memiliki ide untuk mengadakan program pengabdian kepada masyarakat. Program pengabdian ini kami desain dengan memberikan sosialisasi serta pendampingan pembuatan karya tulis bagi peserta didik dan pendidik di salah satu sekolah kabupaten Bangkalan. Tujuan diadakannya program pengabdian masyarakat ini adalah untuk membantu meningkatkan kemampuan literasi pendidik dan peserta didik dalam hal pembuatan karya tulis ilmiah. Proses pelaksanaan program pengabdian ini diawali dengan memberikan sosialisasi tentang hal-hal yang harus dipersiapkan...
dalam membuat karya tulis ilmiah, unsur-unsur yang harus ada dalam pembuatan karya tulis ilmiah, dan penggunaan Mendeley. Sosialisasi dilakukan sebanyak 3 kali, kemudian dilanjutkan dengan proses pendampingan dimana tim kami mendampingi para peserta program sampai menghasilkan karya tulis ilmiah yang siap untuk diterbitkan menjadi artikel ilmiah. Proses pengabdian ini diakhiri dengan pengisian angket untuk mengetahui respon dari peserta program pengabdian. Berdasarkan hasil kegiatan yang sudah dilakukan diperoleh 10 karya tulis yang sudah menjadi artikel dan siap untuk dipublikasikan di jurnal atau media cetak. Hasil dari angket menunjukkan bahwa 95% peserta termotivasi untuk menulis karya tulis ilmiah dan 100% memberikan respon yang positif terhadap adanya kegiatan pengabdian masyarakat yang sudah kami lakukan.

1 Introduction

In recent years, education in Indonesia has experienced rapid progress and development. This is evident from the increase in the results of the PISA survey in 2022, which shows that Indonesia's literacy learning ranking has improved by 5 to 6 positions compared to the results of the PISA survey in 2018 (Bureau of Cooperation and Public Relations, Secretariat General of the Ministry of Education, 2023). This improvement is certainly not separated from the role of educators and students who continue to collaborate in their efforts to improve literacy (Amjadi & Talebi, 2024).

The government can improve literacy in Indonesia through various means, one of which involves empowering teachers as pivotal figures in education by enhancing their academic professionalism (Revina dkk., 2023). The government's policy focuses on promoting teacher rank advancement based on job performance, which is assessed through work achievements over a specified period, including teachers' written works. This policy encourages the active production of scientific papers in Indonesia, thereby fostering improved research processes and literacy within society (Marmoah & Jenny Indrastoeti Siti Poerwanti, 2022).

Apart from using teachers as the main driving force in literacy activities, the government has also started mobilizing students through the MKBM program, where students are considered as the main pioneers in promoting literacy in schools, especially those in remote areas. A teacher needs to master the ability to write scientific papers due to by several things (1) teachers always interact with students so that strengthen the conditions to be able to pour ideas into many activities and (2) teachers always interact with the world of knowledge so
that it is possible many opportunities to write this insights (Indrawati dkk., 2021). The emergence of activities carried out by students is a tangible form that the improvement of literacy in Indonesia should be disseminated to the public more rapidly. Students not only introduce literacy through the MKBM program but also introduce literacy to school-age children through events such as scientific paper writing competitions, which are now frequently held at both local and national levels.

Certainly, these changes need strong support not only from teachers and students but also from the community, including lecturers who have the obligation to carry out community service programs. This is the background of why there are currently many community service programs that focus on socializing and assisting in the creation of scientific papers.

Bangkalan, one of the regions in Indonesia, is classified as having a low literacy rate (Fani & Alamiyah, 2024). This can be proven by the lack of written works produced by educators and students in Bangkalan Regency. This condition is very concerning because it goes against the government's desire to continuously improve literacy and numeracy skills in Indonesia. The lack of knowledge about writing and the low motivation among educators and students are the main factors contributing to low literacy in Bangkalan Regency (Ahid & Sufirmansyah, 2022). Therefore, after conducting interviews with several parties in schools, including educators and students, we have agreed to provide socialization and assistance in writing to transform their works into articles that are worthy and ready for publication in national journals or print media.

The solution we offer to help the government improve literacy skills through this socialization and mentoring program has also been implemented previously by Pagiling dkk., 2023). The results obtained from their activities showed that 30% of teachers in schools where the program was implemented were able to create drafts for publication in national journals (Pagiling dkk., 2023). The process of writing scientific papers certainly requires a time-consuming process that cannot be done instantly, which is why the process involves not only providing socialization but also conducting regular mentoring until the participants in this community service program can truly create their own written works. In the community service program we conducted, mentoring was not only done offline but also accompanied by online activities, making communication with the participants more flexible. Online mentoring has also been carried out by Inu Isnaeni Sidiq (2021), and the results showed that after participating in the training process, participants were able to
understand the structure and content of a scientific paper and were able to submit their completed articles online.

In addition to improving literacy skills in Bangkalan Regency, this community service program will also help educators develop their skills in writing which is currently a requirement for promotion or career advancement. Development of writing literacy culture for primary school teachers through training preparation of PTK and scientific articles. The mentoring provided to teachers has a significant influence in motivating them to produce written works of accountable quality that can be accepted for publication in national journals (Sumarni dkk., 2020). Educators who receive certification allowances are also required to produce academic works such as articles, papers, textbooks, and modules (Kusumawardhani, 2017). Similar community service activities to ours have been conducted by Nurocmah (2021), which resulted in the conclusion that providing scientific writing training for teachers has successfully enhanced their academic professionalism particularly in writing scientific works.

The community service program, which in this case we package in the form of socialization and mentoring in scientific paper writing, indirectly helps improve the image of partner schools as they are able to produce collaborative scientific papers between teachers and students. This activity creates a union of ideas between experienced teachers and students who are always updated with the latest information according to the current development. This community service is a very effective method to produce good scientific papers as each group member plays an important role and exchanges ideas and information.

2 Method

The community service activities are divided into 2 stages: (1) socialization stage and (2) mentoring stage. The socialization is carried out directly through meetings with the community. The socialization conducted by our team covers the preparation needed for writing scientific papers, the elements required in creating scientific papers, and the use of Mendeley. The socialization is conducted 3 times, and at the end of each session, we conduct an evaluation of the activities. After the socialization stage, we proceed to the second stage, which is the mentoring stage. The mentoring process is conducted gradually by our team, starting from creating the title to compiling the bibliography. Each team mentors 3-4 groups. The mentoring takes place for one month,
both through face-to-face meetings and online platforms. The mentoring process is considered complete when each group has produced a scientific paper that is ready for publication.

The subjects of this community service program are educators and students from SMK Assyarqowiyah School located in Poloh Mandung, Kokop District, Bangkalan Regency. The subjects in this community service program are divided into several groups consisting of 3 people each to produce a scientific paper that is ready for publication. The process of forming groups is done by us by seeking advice from the school principal who is familiar with the background of each teacher and student. We organize the group formation process with teachers who have experience in research and students who have the ability to operate computers or laptops. The goal is that after the groups are formed and given socialization, each group can directly act to create written works without any difficulties because there is no one who knows about the research and the typing process.

Unlike the deliberate formation of groups that we set based on several considerations, for the topics in scientific paper writing, we completely leave it to the agreement of each group member. This means that each group can choose a topic they desire according to their respective expertise. The goal is to allow the process of creating scientific papers to flow naturally without the need to learn new areas of expertise, which would otherwise require a significant amount of time for research to gather data.

The community service activities will be conducted at our partner institution, SMK Assyarqowiyah in Modung District. As a follow-up, regular mentoring will be conducted through various social media platforms such as WhatsApp groups, Google Meet, and Zoom meetings. The use of social media aims to facilitate communication between participants and our team, ensuring that the process of writing scientific papers is monitored and guided.

We will evaluate the community service activities by distributing questionnaires to the participants at the end of each topic presentation. The purpose of these questionnaires is to quickly assess the response to the conducted activities. In addition to using questionnaires, we also gather feedback from participants through direct questions or chat discussions in their respective groups. We will analyze the questionnaire results to determine the level of success of the community service activities we have conducted. This community service program is said to
be successful if more than 75 percent of the community responds well to all the service activities that we have carried out.

3 Results

After we have prepared the necessary things for the community service activities, we then make an agreement on the program implementation time with our service partners. This community service process is conducted for approximately 2 months until we have finished obtaining the written works from the participants. There are several findings that we have discovered while implementing this community service program. The results of each activity’s findings will be presented below.

Based on the activities we have conducted, we have obtained two results: the results from the socialization phase and the results from the mentoring phase. In the first socialization phase, there were 27 participants present. The topic discussed in this phase was the preparations needed for writing scientific papers. The first socialization process went smoothly without any issues because some of the participants in the community service program already had data and references to support their scientific writing. On the second day, we conducted a socialization session on the elements that should be included in writing scientific papers. In this second socialization phase, all 30 participants were present. This stage involved direct presentations by our team to the participants, followed by discussions and analysis of several articles that we had prepared, as well as identifying the elements present in those articles.

The final stage of this socialization activity is the use of Mendeley. According to mendeley is a one of the open source based reference management software that can obtained for free and supports various platforms such as microsoft windows, apple macos, as well as Linux (Sudirman dkk., 2021). The lastest version of Mendeley even supports android operating system, so this device can be used on mobile phone. This is because the demands of the publication national and international journals require writing articles using the Mendeley (Färber & Jatowt, 2020). The use of this application can simplify the process of formatting, writing, and citation insertion or in English called citation. The third day presents a new challenge for our team because the participants are not yet familiar with the Mendeley application, resulting in less enthusiasm compared to the first and second days of socialization. Nevertheless, our
team made an effort to approach each participant and ensure that they could follow the material explained and use Mendeley correctly. At the end of the socialization activity, we distributed questionnaires to all participants to assess the extent of their knowledge improvement after the socialization process. The following is the table of the questionnaire results.

Table 1. Questionnaire Results of the Socialization Process for Writing Papers

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<tr>
<td></td>
<td>Increase</td>
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<tr>
<td>Preparation for Making Scientific Papers</td>
<td>30</td>
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<tr>
<td>Elements of Making Scientific Papers</td>
<td>28</td>
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<tr>
<td>Use of Mendeley</td>
<td>25</td>
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After obtaining the participants’ responses from the socialization, we proceeded to the mentoring phase by dividing the participants into 10 groups, where each group consisted of 3 individuals, including teachers and students. The mentoring process began with the creation of a title, followed by the introduction, methodology, simple research findings conducted at the school, data processing, and the creation of a bibliography using Mendeley. The mentoring process was not only conducted face-to-face but also through online platforms such as WhatsApp groups, where our team mentored 2 groups. The end of this mentoring process resulted in 10 scientific papers ready to be submitted to scientific journals or print media.

After obtaining the participants’ responses from the socialization, we proceeded to the mentoring phase. We also provided the participants with a questionnaire to assess their responses to the mentoring activities. Here is a pie chart depicting the results of the questionnaire.
Figure 1. Diagram of the Motivation Level of Mentoring Participants

Based on the image above, it is known that the participants' motivation level during the mentoring process conducted by our team is 95%. This indicates that there is a very high enthusiasm from the participants towards the materials we provide. The high motivation of the participants in mentoring serves as a basis for our team to carry out further community service activities in other schools.

Figure 2. Participant Response Diagram of All Service Activities

The image above shows that all the community service activities, including both socialization and mentoring, received positive responses from the participants. This means that the activities are highly beneficial and advantageous for both parties. The partners benefit from gaining new knowledge in scientific paper writing, including the use of the Mendeley application. On the other hand, we benefit from being able to carry out community service activities, which is an obligation for lecturers.
4 Discussion

On the first day of the socialization event, the topic we presented was the things that need to be prepared when creating a scientific paper. Scientific writing is a writing that discusses a problem based on the results investigation, observation, collection of data obtained from a research (in the field or in the laboratory) and literature studies based on logical scientific thinking (methods) and empirical. Participants from the education sector as well as students already have a general understanding of the definition of a scientific paper, but they are still very limited in the preparation process for creating a scientific paper.

The majority of participants think that the main thing to prepare is to create a research title, whereas the main thing that needs to be analyzed first is the field problem that will be solved. The writing contained in the scientific work should be study of the results of scientific research that can be accounted for scientifically (Febrilia dkk., 2023). Finally, when there is an explanation from our team, the participants of the socialization started to analyze the learning problems that have occurred in the school. After they analyze the problems, we suggest them to think and find the best solutions to the problems that will be solved. This is very important because it is included in the things that need to be prepared when creating a scientific paper. Based on the results of research conducted by (Arsiyana dkk., 2021) showing that scientific papers should come from issues or problems raised from the surrounding environment so that it is easier to make it. The characteristic of scientific work is the objectivity of the view and the depth of meaning presented (Khoa dkk., 2023).
After the participants have identified the problem and thought of solutions, we provide a socialization on how to write the background section. The explanation process about the background topic can be easily understood by the participants, so it doesn’t take much time. Once the background section is completed, we then inform the participants about the process of finding references to be used as literature reviews. On average, participants assume that the literature used always comes from printed books that they have to buy, which makes it difficult for them to write papers with many references. Therefore, our team explains that references nowadays are not limited to printed books, but can also come from electronic books that are available for free. We also explain that good references often involve previous research findings published in scientific journals. We provide several educational journals that can be used as reference sources. The participants were very enthusiastic when we explained that the process of finding references can be done easily and for free, only requiring internet access that can be utilized using the school’s Wi-Fi facility. Scientific publication is a publication system conducted based on peer review in framework to achieve a level of objectivity as high as possible (Gunawan dkk., 2021).

The topic of reference search has been discussed, then we proceeded to the topic of research methods. This topic was not too difficult for the participants to understand because they have previously conducted research such as classroom action research commonly done by teachers in schools. However, we provided new knowledge to the participants about a new research method that was not yet known to them, which is development research. Development research is not familiar to educators and students because they have not conducted research using this method before. We received enthusiastic and positive responses from the participants when we explained about the topic of development research. This is because during their learning activities, they often produce innovative products that are suitable for development research.

After the explanation process on the development topic is completed, we continued with the activity of using the Mendeley application. Mendeley is a reference manager software that can support writers in compiling and publishing scientific papers (Kristiawan dkk., 2022). With the advancement of technology nowadays, the process of creating a bibliography is no longer done manually, but can be assisted using the Mendeley application. The assistance of the Mendeley application will facilitate the automatic creation of bibliographies and adjust them to the desired style. The use of the Mendeley application for bibliography creation has been widely implemented by the majority of national and
international journals. Therefore, in the process of writing scientific papers as authors, one must be equipped with knowledge of using the Mendeley application. Participants who have a basic understanding of laptop operation quickly absorbed the material on Mendeley well.

In general, the community service results went smoothly and aligned with the goals that we and our community service partners had expected. The socialization and mentoring activities were deemed highly beneficial for the participants of this program. Aside from gaining additional knowledge about scientific writing, they also acquired knowledge about creating references using the Mendeley application. Mendeley is currently a widely used application, especially when publishing articles in scientific journals. Therefore, training on the usage of Mendeley is an essential part of scientific writing. This is in line with the results of a community service program conducted by Baqi Yuni Wahyuningsih in 2021, which showed an improvement in the knowledge and skills of the training participants in using the Mendeley application for creating bibliographies.

The training on the use of the Mendeley application has also been conducted by (Ngibad, 2020). However, the implementation process was different from the activities we conducted, as Ngibad’s training was conducted online, while ours was conducted offline. Additionally, Ngibad’s training only covered the creation of bibliographies, whereas our training program extended to the stage of preparing articles ready for submission. The introduction of Mendeley through the socialization activities was initially challenging for the participants of our community service, as they were unfamiliar with the application. It was understandable that they felt confused at the beginning. Therefore, as a follow-up to the socialization activities, we provided regular mentoring to each group, enabling them to create scientific papers and use the Mendeley application independently without relying on our team.

The mentoring activities for groups 1 and 2 resulted in the creation of research papers in the form of classroom action research. Both groups chose classroom issues as the topics for their research papers, where group 1 addressed the issue of low student motivation in mathematics subjects, and group 2 focused on the issue of students’ minimal participation in practical learning processes. The design of these research papers falls under the category of classroom action research conducted in cycles, from the planning stage to the reflection stage. The mentoring process for both groups was carried out from problem identification to the final stage of creating the bibliography.
Unlike groups 1 and 2, groups 3, 4, and 5 chose a different type of research, which is quantitative descriptive research. These three groups had a shorter time for data collection during the research process, but they required additional knowledge in data processing. We gave these three groups the option to analyze the data manually or by using the SPSS application. Group 3 chose to analyze the data manually, while groups 4 and 5 chose to help application. Similar to the previous groups, we also provided guidance and assistance to groups 3, 4, and 5 from the initial stages of writing the scientific paper until it was ready for publication.

Groups 6, 7, and 8 chose qualitative research for their scientific papers. They preferred conducting interviews and distributing questionnaires to respondents, which led them to choose qualitative research. We also provided assistance to the participants in creating interview guidelines to be used during the data collection process. These three groups produced 3 scientific papers that are also ready for publication.

The last group we mentored was groups 9 and 10, who had a strong desire to try something new, one of which was conducting development research. Group 9 chose to develop technology-based learning media using the 4D model, while group 10 chose to develop learning modules using the ADDIE model. Unlike the other groups, these two groups produced two products at once, namely a written paper and the developed learning product.

In general, the mentoring process carried out by our team went according to the agenda we had created and agreed upon with our partners. The results were also in line with our and our partners’ expectations. Our partners hope for further mentoring for the process of creating papers that are suitable for publication in international journals. This is still on our agenda for the next community service program. The results of this service are in line with the results of the service that has been carried out by (Japar dkk., 2023). Based on the results of the service, it shows that the existence of scientific paper writing assistance is a solution to improve the professional competence of teachers.

5 Conclusion

The conclusion drawn from the implementation of this community service program is that the process of improving literacy can be done by raising awareness among the community, especially educators and
students, through socialization and mentoring in scientific writing. The hope for the future is that school leaders can continue to organize similar activities in a sustainable manner, resulting in the production of many written works by educators and students, which will contribute to addressing the low literacy levels in Bangkalan Regency specifically.

6 Acknowledgment

The existence of this community service program activity can run as expected because of assistance from several parties. Therefore, we would like to thanks:

a. LPPM Universitas Trunojoyo Madura dan UPPM STKIP PGRI Bangkalan, upon permission given to us.

b. The principal of SMK Assyarqowiyah, with the permission and opportunity given to us to carry out community service activities.

c. Educators and students of SMK Assyarqowiyah who have helped us to become the subject of this activity.

7 References


