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Training advanced writing scientific skills: The case for deliberate practice in SMA N 7 Palu

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Abstract

Scientific Writing is a scientific work that is written by following scientific rules. Scientific rules as the main requirement in writing a work are intended so that the work produced can be scientifically accounted for. The purpose of scientific writing training activities is to foster interest, enthusiasm, and creative and innovative ideas from students of SMA Negeri 7 Palu to produce scientific work in accordance with writing rules. This activity was carried out in August 2023, at SMA Negeri 7 Palu, with 30 student participants. The material presented in this training, namely how to bring up creative and innovative ideas that often arise from the problems that surround us, and how to write a scientific paper in accordance with the rules of writing. The method of delivering the material was carried out by means of presentations from the speakers, and continued with discussions and practices in generating creative ideas. Based on the activities carried out at SMA N 7 Palu, it can be concluded that the training participants were able to come up with creative and innovative ideas related to handling problems around them. However, the lack of information regarding how to write in accordance with scientific principles makes participants reluctant to write. Therefore, in the future, it is hoped that there will be further training with the target of teachers so that later they will be able to guide and foster their students optimally in producing a scientific paper.

Keywords: Scientific writing; SMA N 7 Palu; Activity; Training

1. Introduction

The rapid development and progress of science and technology affect the progress of a nation which can be measured by its human development. The success of the development of the quality of human life can be seen from the high and low value of the index better known as the Human Development Index [1]. Three (HDI) basic dimensions in the preparation of HDI, namely the dimension of longevity and healthy living, the dimension of decent living standards, and the dimension of science [2; 3]. Each of the basic dimensions reflects different measures. Indicators in the knowledge dimension are currently the main priority in development aimed at improving the quality of human resources for the sake of progress, independence and competitiveness in the era of globalization.

The knowledge dimension is measured using a combination of indicators of expected years of schooling and average years of schooling. These two indicators measure the level of success in education in a region [4]. The higher the average number of expected years of schooling and the average number of years of schooling, the higher the level of education that can be achieved by the population age 15 years and over in undergoing formal education. The high average expected years of schooling and average years of schooling are not necessarily an absolute measure of educational success. Educational success can be influenced by several factors that are part of an education system.

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The education system is formed from several elements in it that have their respective roles. Students are an important part of an education system [5]. Students as the future drivers of the nation should have innovative thinking and be able to provide simple solutions to problems around them. Students who excel and are able to compete in the era of globalization are the foundation for the realization of educational progress as a success factor for a nation [6].

Student excellence can not only be assessed from the academic side, but also from the non-academic side. Assessment of excellence from the academic side can be done simultaneously and more easily, in contrast to non-academic assessment. Non-academic assessment can be assessed from the achievements that students are able to achieve in activities outside of academics, such as extracurricular activities in sports, arts, and scientific papers.

SMA N 7 Palu is one of the senior high schools in Palu city that has a myriad of achievements in both academic and non-academic fields. However, non-academic achievements, especially in the field of scientific papers (KTI) are still considered lacking. This can be seen based on the array of achievement award certificates that are more dominated in the field of sports and arts. The ability of students to generate creative and innovative ideas is quite good, but there is still a lack of courage in expressing these ideas to become a paper. In addition, understanding the basic concepts and rules of writing scientific papers is still a problem for some students.

KTI is a scientific work that is written or follows scientific rules [7; 8; 9; 10]. Scientific rules as the main requirement in writing a scientific work so that the work produced can be scientifically accounted for. Therefore, in preparing KTI, it is necessary to equip yourself with the basics of science in accordance with the field of KTI that will be done so that the requirements for conformity with scientific principles can be met. Based on this, training related to the writing of scientific papers was held with the intention of fostering interest, enthusiasm, and creative and innovative ideas from SMA N 7 Palu students to produce a scientific work that is certainly in accordance with the rules of writing.

2. Material and methods

This activity was carried out in August 2023, at SMA N 7 Palu, with 30 student participants. The main objective in this activity is to foster and increase students' interest in writing a scientific paper.

The material presented in this training, namely how to bring up creative and innovative ideas that often arise from the problems that surround us, and how to write a scientific paper in accordance with the rules of writing. The method of delivering the material was carried out by means of presentations from the speakers, and continued with discussions and practices in generating creative ideas.



Figure 1 The speaker explained the technique of writing scientific papers

3. Results and discussion

The KTI writing training for SMA N 7 Palu students received a very good response from the training participants. This can be seen from the enthusiasm of the participants in asking questions to the speaker. In the discussion session, participants actively asked questions and expressed their opinions and simple ideas.

In the practical session, trainees were trained to express their ideas, by mentioning research variables, problem analysis, objectives, and selecting simple research methods that are in accordance with the ideas raised. From the results of the practice, 95% of participants were able to explore simple ideas to be poured into a paper. Among them, one participant explained his idea regarding how to detect his school equipment that is often lost. The purpose of the idea presented was to create a new innovation, an application equipped with sensors that can be used to track lost school equipment.



Figure 2 Trainees explore ideas and ideas

In addition, there were also participants who expressed their ideas regarding how effective learning methods are for students who implement full day schools so that they are not bored and tired. As it is known that, in several cities in Indonesia, many schools from various levels of education have implemented a full day school system. The full day school system has both positive and negative sides. Training participants who are full day school students expressed what they felt as subjects of the system. The training participants stated that the full day school system is actually good, however, during the afternoon hours most students begin to feel bored and tired in dealing with the subjects presented. Participants stated that the lack of rest time for full day school students has a negative impact on students, especially when the subjects take place in the afternoon. Therefore, the training participants came up with ideas on how to use effective learning methods so that full day school students do not get bored and tired during the afternoon hours. Participants suggested that the additional break time could refresh their minds. In addition, they expected a change in teaching methods from subject teachers, namely changing from the lecture method to the active discussion method. Participants said that the active discussion method can build closeness between teachers and students, students are more active and brave in expressing their opinions.

Other training participants presented creative ideas related to the rise of Body Shaming to be raised as an interesting topic. The background that underlies the issues raised is the rampant cases of bullying among teenagers that started from jokes related to their physique. Based on this, the trainees wanted to raise the topic to find out the impact of body shaming around their school.

4. Conclusion

Based on the activities carried out at SMA N 7 Palu, it can be concluded that the training participants were able to come up with creative and innovative ideas related to handling problems around them. However, the lack of information regarding how to write in accordance with scientific principles makes participants reluctant to write. Therefore, in the future, it is hoped that there will be further training with the target of teachers so that later they will be able to guide and foster their students optimally in producing a scientific paper.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare no conflict of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

Author Contributions

All authors planned, designed the work, and supervised all the processes.

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