



Training and Assistance in Preparing Class Action Research Proposals for Science Teachers in Hulu Sungai Tengah Regency

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ABSTRACT

This article has a focus on describing the effectiveness of the training and assistance in preparing class action research proposals for science teachers in Hulu Sungai Tengah Regency. This training activity took place at SMPN 10 Barabai, Indonesia which was attended by 36 science teachers in Hulu Sungai Tengah Regency, Indonesia. The research design applied was one group pretest posttest design. The effectiveness of training and mentoring can be seen from the achievements of teachers as seen from the pretest and posttest. The results of the pretest and posttest were tested whether there was a significant difference between the pretest and posttest values using the paired sample t-test. If the paired sample t-test results indicate significant differences between the pretest and posttest values, then proceed with the N-gain test. The effectiveness of the conclusion is the training and assistance in preparing class action research proposals for science teachers in the Hulu Sungai Tengah Regency in the high category. Thus, it is recommended that further training be carried out related to writing class action research reports. This kind of training is also needed for teachers in other regions, as well as in other subjects.

Keyword: class action research, science teacher

INTRODUCTION

The teacher is a key component in the education system, namely as a key component, the teacher becomes one of the determinants of educational success (Mediatati & Ismanto, 2015). A teacher is said to be professional if he has four competencies, namely pedagogical competence, personal competence, social competence, and professional competence (Jana & Pamungkas, 2018).

One way to increase teacher professionalism is by research. The most suitable research conducted by teachers is classroom action research for several reasons including being able to improve the quality of learning, improve the quality of the learning process and improve learning outcomes in class (Jana & Pamungkas,

2018). The teacher needs to draw up a research plan in the form of a class action research proposal in order to carry out classroom action research well. Class action research proposals, among others, explain the diagnosis and determination of the problem to be solved, the form and scenario of action, the development of instruments to measure the success of the action, and the analysis and interpretation of research data procedures (Mediatati & Ismanto, 2015).

Classroom Action Research is receiving considerable attention in today's world of education. Classroom Action Research is increasingly becoming a priority for teachers to do, because it has several benefits. First, the implementation of a well planned and controlled Classroom Action Research will improve teacher performance in managing quality learning.

Second, solving class problems or learning will provide improvements to the quality of the learning process. Third, improving the role of teachers in learning will be able to contribute to improving the quality of education nationally (Mediatati & Ismanto, 2015). Through Classroom Action Research, education in schools gains benefits in the form of practical improvements, including overcoming various learning problems experienced by students (Nilakusmawati, Sari, & Puspawati, 2016).

The dedication partners are science teachers in Hulu Sungai Tengah Regency. The results of interviews with partner teachers as well as observations made by the dedication team, showed that science teachers were still experiencing difficulties in preparing proposals and conducting Classroom Action Research. This is due to lack of understanding and skills in preparing Classroom Action Research proposals. In addition, teachers are also less motivated in preparing proposals and conducting Classroom Action Research so that not many teachers carry out Classroom Action Research. The implementation of Classroom Action Research by the teacher has not been as expected.

Training on the preparation of Classroom Action Research proposals is considered important and it is necessary to train teachers in conducting research as one of the solutions to overcome the problems that exist in the classroom where teaching (Jana & Pamungkas, 2018). Classroom Action Research training activities are also an effort to train skilled teachers in making scientific papers. Given the importance of Classroom Action Research for the development of the teaching profession, but in reality natural science teachers in Hulu Sungai Tengah Regency still have difficulty in preparing Classroom Action Research proposals as a stage of research preparation, the service team needs to overcome these problems by taking action. Actions that are considered appropriate to overcome the problem of the difficulties of science teachers in preparing Class Action Research proposals are to provide Classroom Action

Research training that suits the needs of the teacher, actively involve the teacher in planning, implementing, and assessing the results of the training, as well as assisting intensively the teachers the teacher is able to compile or produce Classroom Action Research proposals well.

Training activities have been carried out using lecture, question and answer, discussion and assistance methods when preparing proposals. The material presented is about the systematic concept of preparing class action research proposals accompanied by direct practice of making class action research proposals. This article has a focus on describing the effectiveness of the training and assistance in preparing class action research proposals for natural science teachers in Hulu Sungai Tengah Regency.

METHODS

This training activity took place at SMPN 10 Barabai which was attended by 36 science / science teachers in Hulu Sungai Tengah Regency. The effectiveness of the Classroom Action Research being trained is seen from the teacher's achievements in terms of the pretest and posttest. The results of the pretest and posttest were tested whether there was a significant difference between the pretest and posttest values using the paired sample t-test.

If the paired sample t-test results indicate significant differences between the pretest and posttest values, then proceed with the N-gain test. Normalized gain (N-gain) equation is used to find out how the effectiveness of the training and assistance in preparing class action research proposals for science teachers in Hulu Sungai Tengah district The formula for calculating N-gain is as follows (Hake, 1998):

$$\langle g \rangle = \frac{(\% < s_f \rangle - \% < s_i \rangle)}{(100 - \% < s_i \rangle)}$$

Where: $\langle g \rangle$ = gain score; $\% < s_f \rangle$ = score post-test; $\% < s_i \rangle$ = score pre-test. After obtaining the normalized gain (N-gain) value, the criteria for the effectiveness of teaching materials can be seen in the following table.

Table 1 Criteria for the Effectiveness of Teaching Materials (Hake, 1998)

No.	Score N-gain	Criteria
1	$(\langle g \rangle) \geq 0,7$	High
2	$0,7 > (\langle g \rangle) \geq 0,3$	Medium
3	$(\langle g \rangle) < 0,3$	Low

RESULT AND DISSCUSSION

The training and assistance in preparing class action research proposals for science teachers in Hulu Sungai Tengah District aims to improve the understanding and ability of classroom action research teachers in Hulu Sungai Tengah Regency regarding classroom action research. Actions that are considered appropriate to overcome the problem of the difficulties of classroom action research teachers in preparing class action research proposals are to provide classroom action research training that meets the needs of the teacher, actively involve the teacher in planning, implementing, and assessing the results of the training, and assisting intensively these teachers were able to compile or produce class action research proposals well. Implementation of training and assistance in preparing class action research proposals attended by science teachers in the Hulu Sungai Tengah Regency, including SMPN 1 Hulu Sungai Tengah , SMPN 2 Hulu Sungai Tengah , SMPN 3 Hulu Sungai Tengah , SMPN 6 Hulu Sungai Tengah , SMPN 7 Hulu Sungai Tengah , SMPN 8 Hulu Sungai Tengah , SMPN 11 Hulu Sungai Tengah , SMPN 12 Hulu Sungai Tengah , SMPN 13 Hulu Sungai Tengah , SMPN 14 Hulu Sungai Tengah , SMPN 16 Hulu Sungai Tengah , SMPN 17 Hulu Sungai Tengah , and others.



Fig 1. Training and Assistance in Preparing Class Action Research Proposals

Before the speakers explained the material, the teachers were given pre-test questions to find out the teacher's initial knowledge about classroom action research. After completing the delivery of the material, the teachers were given a post-test question to find out the teacher's final knowledge about classroom action research. The following is a comparison chart of the pretest and posttest.

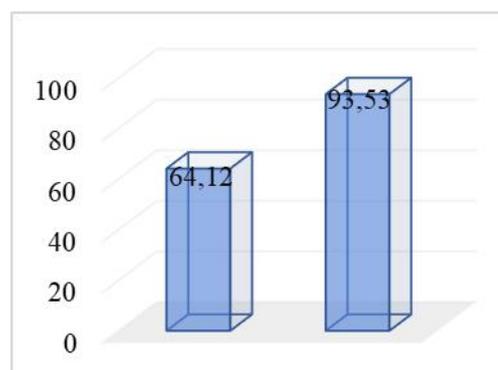


Fig.2 Average of pre-test and posttest

The results of the pretest and posttest were tested whether there were significant differences between the pretest and posttest values using paired sample t-test. The null hypothesis of paired sample t-test is that there is no significant difference between the pre-test and post-test scores when implementing training and mentoring in preparing class action research proposals for science teachers in the Hulu Sungai Tengah Regency. An alternative hypothesis from paired sample t-test is that there is a significant difference between the pre-test and post-test scores when implementing training and mentoring in preparing class

action research proposals for science teachers in Hulu Sungai Tengah Regency.

Table 2 Result of paired sample t—test

	t	df	Sig. (2- tailed)
Posttest - Pretest	18,438	33	,000

Table 2 shows the results of paired sample t-tests. From this table it can be seen that the sig-2 value is below the significance level of 0.05. Thus it can be concluded that H_0 is rejected. This means that there are significant differences between the pretest and posttest scores when implementing training and mentoring in preparing class action research proposals for science teachers in Hulu Sungai Tengah Regency.

Because the results of paired sample t-tests stated that there were significant differences between the pretest and posttest values, then proceed with the N-gain test. Normalized gain (N-gain) equations are used to find out how effective the training and mentoring are in preparing class action research (PTK) proposals for science teachers in the Hulu Sungai Tengah district. The results show that the gain score is 0.82. Based on Table 1, the effectiveness of the training and assistance in preparing class action research (PTK) proposals for science teachers in the Hulu Sungai Tengah district is of high category. Through this training, science teachers in Hulu Sungai Utara Regency can learn about various aspects of classroom action research. This includes: (a) Introduction to classroom action research and problem analysis; (b) classroom action research methods; (c) Analysis of the results of classroom action research; (d) training in preparing class action research proposals.

Conceptually, scientific writing is a necessity for teachers as professional staff. The teacher must write scientific papers as an essential part of developing his profession (Bahri, Idris, & Zaid, 2013). Training on preparation of proposals from Classroom Action Research is considered important and is necessary to train teachers

in conducting research as one of the solutions to overcome the problems that exist in the classroom where teaching (Fitria, Kristiawan, & Rahmat, 2019). Classroom Action Research is a teacher's need to improve his professionalism. Classroom action research improves teacher performance so that teachers become professionals (Fitria et al., 2019).

Classroom Action Research is the teacher's scientific paper for improving the quality of teaching and learning (Soejoto, Fitriyati, Ghofur, Sholikhah, & Prakoso, 2017). Classroom Action Research is essentially a scientific activity that is able to reflect the learning activities of the teacher concerned through scientific procedures and can be accounted for with procedures and requirements that can be done by a teacher without reducing his attention to class and student achievement (Bahri et al., 2013). Teacher creativity is not only in terms of the application of science and technology, but also the development of learning methods that are simple but in accordance with the character of the nation and the development of teaching materials to enrich knowledge (Jayanta, Rati, Diputra, & Wibawa, 2017).

This type of Classroom Action Research is able to offer approaches and procedures that promise direct impact in the form of improvement and improvement of teacher professionalism in managing teaching and learning in the classroom (Nilakusmawati et al., 2016). Classroom Action Research is recommended for teachers to write Scientific Papers because: (1) Scientific Papers are reports of actual activities carried out by teachers in their class in an effort to improve the quality of their learning (this is certainly different from Scientific Papers in the form of correlation research reports, descriptive research, or expression of ideas, which generally do not have a direct impact on the learning process in the classroom); and (2) by carrying out these research activities, the teachers have done one of their tasks in their professional development activities (Bahri et al., 2013).

CONCLUSION

Training effectiveness and assistance in preparing class action research proposals for science teachers in Hulu Sungai Tengah Regency are categorized as high. Thus it is recommended that further training be carried out related to writing class action research reports. This kind of training is also needed for teachers in other regions, as well as in other subjects.

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