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IMPROVING THE ABILITY OF PRIVATE SCHOOL TEACHERS IN MAKING SCIENTIFIC WRITING THROUGH STRUCTURED ASSISTANCE

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Abstract

In this study the problem arises because of several things as follows: 1). The limited ability of prospective elementary school students to make scientific papers; 2). The limitation of lecturers in processing learning subjects is the technique of writing scientific papers as teaching material. These limitations are feared to cause stagnation in the ability of prospective primary school teachers to make scientific papers. Mentoring is a way to overcome problems that can be caused by reduced availability, support, and guidance of lecturers as adults in the lives of many students. The results of this study are that there is an increase in the ability of prospective elementary school students to make scientific papers with structured mentoring. By implementing structured mentoring in the Scientific Writing Technique course, prospective elementary school teacher students are guided to make scientific papers in a structured manner. The quality of scientific papers made by students of prospective elementary school teachers using structured assistance is quite good. This is because students are structured guided to write scientific papers ranging from finding problems to finding solutions and putting them in scientific papers.
Keywords:Scientific Papers, Structured Assistance

Abstrak

Dalam penelitian ini permasalahan muncul dikarenakan beberapa hal sebagai berikut: 1). Keterbatasan kemampuan mahasiswa calon guru sekolah dasar dalam membuat karya tulis ilmiah; 2). Keterbatasan dosen dalam mengolah pembelajaran mata kuliah teknik penulisan karya tulis ilmiah sebagai bahan ajar. Keterbatasan-keterbatasan ini dikhawatirkan menyebabkan stagnannya kemampuan calon guru-guru sekolah dasar dalam membuat karya tulis ilmiah. Pendampingan adalah cara untuk mengatasi masalah yang bisa diakibatkan oleh berkurangnya ketersediaan, dukungan, dan bimbingan dosen sebagai orang dewasa dalam kehidupan banyak peserta didik. Hasil dari penelitian ini adalah terdapat peningkatan kemampuan mahasiswa calon guru sekolah dasar dalam membuat karya tulis ilmiah dengan pendampingan terstruktur. Dengan menerapkan pendampingan terstruktur pada mata kuliah Teknik Penulisan Karya Tulis Ilmiah, mahasiswa calon guru sekolah dasar dibimbing untuk membuat karya tulis ilmiah secara terstruktur. Kualitas karya tulis ilmiah yang dibuat oleh mahasiswa calon guru sekolah dasar dengan menggunakan pendampingan terstruktur sudah cukup baik. Hal ini disebabkan mahasiswa dibimbing secara terstruktur untuk menulis karya tulis ilmiah mulai dari mencari masalah sampai menemukan solusi dan menuangkanya dalam karya tulis ilmiah.
Kata Kunci: Karya Tulis Ilmiah, Pendampingan Terstruktur

INTRODUCTION

In this study the problem arises because of several things as follows: 1). Limitations of the ability of prospective elementary school students to make scientific papers; 2). The limitation of lecturers in processing learning subjects is the technique of writing scientific papers as teaching material. These limitations are feared to cause stagnation in the ability of prospective elementary school teachers to make scientific papers. If this is allowed to

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continue to occur, a generation will be formed who will experience delays in completing studies that affect the student and broadly in the study program concerned. Therefore, this study will study the subject matter of scientific writing techniques that can be applied to prospective elementary school students in a practical, efficient and effective way that can improve the ability of elementary school prospective student students to be more productive. However, for more in-depth and comprehensive research, the team's initial research will be limited to making scientific papers and scientific publications in national journals that have not been accredited.

Scientific Writing

Scientific writing is also called scientific work or scientific writing. Scientific works are essays of science that present facts and are written according to good and correct writing methodologies (Haryanto, 2000). While according to scientific essays is an essay or writing that is obtained in accordance with the nature of science and is based on the results of observations, reviews, research in a particular field, arranged according to certain methods with systematic writing that has language and its contents can be accounted for truth and science (Zaenal, 1998).

Scientific work is a writing that contains a study of a particular problem using scientific rules. Scientific rules include the use of scientific methods and the fulfillment of scientific principles, such as: objective, logical, empirical, systematic, straightforward, clear, and consistent. Scientific works can be divided into two, (i) scientific works written based on the results of research, and (ii) scientific works written based on the results of serious thought. Both types (i) and (ii), in writing still use the method of analyzing problems that are approaching the truth (scientific). Scientific works are works that are prepared by paying attention to and using scientific principles, while non-scientific works are written works whose preparation does not or does not fulfill scientific principles. All research results and publications are scientific works. Likewise, all papers, papers, or articles are prepared using scientific principles and are based on the results of serious research and or thought in the context of the application or development of science.

Sukohardjono (2007): Scientific papers are various kinds of writing carried out by a person or group using scientific procedures. In other words scientific papers are written reports on the results of scientific activities.

Scientific articles differ from papers. Scientific articles are summaries of research reports, while papers written are not based on the results of the study. Scientific articles are usually published in research journals. Papers (or non-research articles) are usually published in non-research scientific magazines. Non-research papers or articles can be descriptive, directive or problem solving. Descriptive papers, especially if not accompanied by analysis, are usually only informative so that they can be likened to an advertisement.

Definition of Structured Mentoring

Students need a positive relationship with their lecturers as adults for healthy development. The National Association for Youth Education (2008) has noted that constructive relationships, where a student feels valued, are very important for the development of security, self-esteem, academic achievement, and the ability to interact with others. Unfortunately, many students may receive inadequate adult support now than in the past because of changes in family and community norms (Jekielek, Moore, & Hair, 2002; Rhodes, Reddy, Roffman, & Grossman, 2005).

Mentoring is a way to overcome problems that can be caused by reduced availability, support, and guidance of lecturers as adults in the lives of many students. A lecturer can provide caring and supportive relationships, contributing to the experience of improvement for students who may have unsatisfactory relationships with other lecturers / adults in their

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lives (Rhodes, 2005). The mentoring program is intended to facilitate appropriate and meaningful relationships between students as students and lecturers as adults that lead to positive student outcomes such as increased social skills, self-esteem, and literacy skills (Dappen & Isernhagen, 2005; DuBois, Neville, Parra, & Pugh-Lilly, 2002). Evaluations and research on mentoring programs have occurred since the 1970s, but more other research is needed for possible new findings (DuBois, Holloway, Valentine, & Cooper, 2002). While some empirical evidence shows the positive impact of mentoring on lecturers (Karcher, 2009; Evans, 2005) there seems to be a need to examine more about the motivation and benefits felt by students as students who participate in structured class-based mentoring.

Benefits of Class-Based Structured Assistance (Peers)

Researchers have suggested that classroom / school-based mentoring is associated with increased student self-esteem, attitudes toward class / school, and fellow relationships and parents (Hancock, 2003; Rhodes et al., 2005). Several studies have found that classroom / school-based mentoring is associated with increased academic and student behavior (Caldarella, Adams, Valentine, & Young, 2009; Keating, Tomishima, Foster, & Alessandri, 2002; Rhodes et al., 2005). Herrera (1999) found that lecturers as adults encourage more positive relationships between students, their peers, and class / school administration. Class / school-based mentoring also seems to be an effective intervention for students who have emotional and behavioral difficulties (Caldarella et al., 2009; Glomb, Buckley, Minskoff, & Rogers, 2006; Herrera, Sipe, McClanahan, Arbreton, & Pepper, 2000)

Limited research has discussed the impact of classroom / school-based mentoring on apprentice lecturers, but is a positive initial finding. For example, young lecturers who have just served as lecturers report greater benefits related to class and school relevance and self-esteem than the comparison group (Karcher, 2009). The positive effects of mentoring were also found on young lecturers who guided students in the P study program, which specifically increased the lecturers' knowledge and understanding of student development and appropriate educational practices (Trepanier-Street, 2007).

At college age, lecturers report that they are also students when they guide youth in cities as part of a community-based mentoring program (Kafai, Desai, Peppler, Chiu, & Moya, 2008). Fresko and Wertheim (2006) show that apprentice lecturers can use it. Participation in mentoring can increase their sensitivity to students, improve their coping skills, and learn how to deal with and interact with students. Others have reported that mentoring allows lecturers to expand their social networks, improve their teaching and training skills, and increase their personal satisfaction (Ellis & Granville, 1999).

In the context of mentoring new teacher candidates, Gilles and Wilson (2004) also report that mentoring provides several benefits for lecturers including opportunities for professional development, increased self-confidence, and broader networks. However, additional research is needed to better understand the motivations and benefits reported by lecturers who serve as class / school-based friends to students in making scientific work. Such research can help increase student productivity which is often the most difficult field in making scientific papers and publishing them in journals.

METHOD

This study used the experimental method pretest posttest towards the Structured Assistance class and the Conditional Mentoring class as the control class, where the pretest was conducted on both classes, then the two classes were given different treatments and posttest was conducted to find out the final ability of students after being treated, especially in writing papers scientific.

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The location used in this study is IKIP Siliwangi which is a private university in the Kopertis region IV. The location selection of Siliwangi IKIP as a research location is because IKIP Siliwangi has an elementary school teacher education study program that students can interpret as potential elementary school teachers. The subjects to be used are students in the Primary School Teacher Education Study Program IKIP Siliwangi with a total of 70 students, consisting of 35 students in the experimental class and 35 students in the control class.
The instruments used in this study are of two types. The first test instrument was a description question, this instrument was used to measure the understanding of students of Elementary School Teacher Education IKIP Siliwangi about Scientific Writing. The second instrument in the form of a checklist is used to measure the ability of IKIP Siliwangi students to make Scientific Writing. All instruments used have been tested by experts.

RESULTS AND DISCUSSION

Results

To obtain the results of the student's ability of prospective primary school teachers in making scientific papers, each test consists of 7 description questions and a scientific study instrument consisting of 30 statements about the problem aspects, the contents of the action and writing. Instrument ability to make scientific papers is done twice in research, namely before learning (pre-response) and after learning (post-response). Pre-response is used to see the student's initial ability, while the posrespon is used to see students' abilities after learning. The pretest and posttest scores of the ability of elementary school prospective students to make scientific papers are used to see the achievement of these abilities. The study instrument for scientific papers is to see the quality of scientific papers made by students. This study instrument is used to see whether the problem, content, actions and writing are good or not.
Data analysis carried out included pretest and posttest data for students' ability of elementary school teacher candidates in making scientific papers as well as data from instruments reviewed by scientific papers on data processing carried out with the help of SPSS 23.0 for Windows and Microsoft Excel 2010 software. The following are the results of research and discussion.

Table 1. Average value of understanding scientific papers

No	Skor	Eksperimen	Control
1	Skor pretest	29,98	32,55
2	Skor posttest	73,24	46,26
3.	Skor Gain	0,68	0,18

On the average pretest score the ability to make Control class scientific papers have an average value of 32.55 which, if converted in the form of a percentage of the achievement of the control class, only gets 32.55%.
On the average pretest score the ability to make a control class scientific paper has an average value of 32.55 and is higher than the average of the experimental class which only has an average value of 29.98 The average difference between the two classes is 2, 57. The difference in achievement between the experimental class and the control class is still relatively low, so the two classes have the ability to make relatively similar initial scientific papers.
On the average posttest score the ability to create a control class scientific paper which only has an average value of 46.29 which if converted in the form of a percentage of the achievement of the control class that only obtains. 46.29%.

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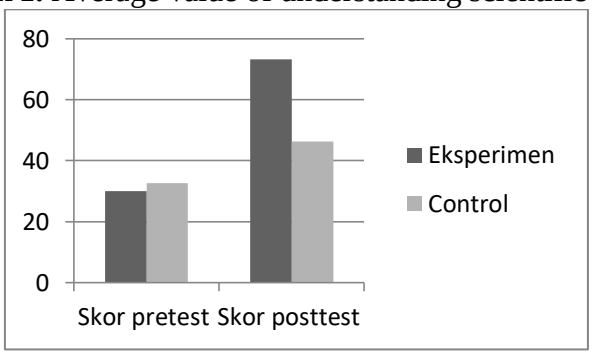
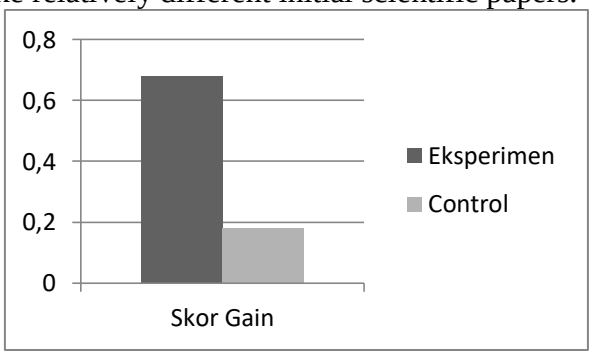
On the average posttest score the ability to make experimental class scientific papers has an average value of 73.24 and is higher than the average of the control class which only has an average value of 46.29 The average difference between the two classes is 26, 98 which when converted into the percentage percentage of achievement of the experimental class is 73.24% or 26.98% higher than the achievement of the control class that only obtains. 46.29%. The difference in achievement between the experimental class and the control class is quite good, both classes have the ability to understand final scientific papers that are relatively different

Grafik 1. Average value of understanding scientific papers



On the average gain score the ability to make experimental class scientific papers has an average gain of 0.68 and higher than the average gain of the control class which only has an average value of 0.18 The average difference between the two classes is 0.5. The maximum gain score in the control class is 0.68, while the maximum gain score in the experimental class is 1.00. The minimum gain score in the control class is -0.38, while the minimum gain score in the experimental class is 0.20. The difference in gain scores between the experimental class and the control class is already moderate, so the two classes have gain scores the ability to make relatively different initial scientific papers.



Grafik 2. The average gain comprehension value scientific papers

On the average score of instruments of scientific writing quality in the experimental class has an average value of 73.77, if converted into the percentage of achievement of the experimental class is 73.77%. The achievement of the quality score of scientific papers in the experimental class is quite good. The highest score of instrument for scientific writing quality was obtained by S4 with a score of 98.44, while the lowest score of quality scientific writing instruments was obtained by S25 with a score of 45.31.

Discussion

There are 30 statements presented in determining the quality of scientific work made by students. The introduction that occurs is the works that produce practical class students in education classes / practices in schools. Most of the students' work is indeed their experience in improving quality in the classroom. Scientific papers made by students and learning

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processes that occur in the classroom / practice of education in schools. In scientific papers it also applies to solving problems that occur in the classroom / practice of education in schools. looking for answers that can be accepted using methods that are also applied in scientific papers.

In scientific papers there are also actions taken by students to collect data. That gives creative and innovative students (a new action that deserves to be replicated). Which is different from what is usually done by teachers in previous education practices or practices. The problem examined in KTI is a problem that really exists and is expressed by the teacher. Work with work (ask permission, make reports, etc.). Redesign through (a) planning, (b) action, (c) observation, and (d) reflection. A better solution to the problem is temporary.

Fill in books written by students. Fix problems, problems, and real problems in class / at school. Is there anything used to explore or improve the quality, process, input, or results of learning and / or education. Problems of theory, literature, arrangements that build and underlie ideas in solving problems or taking actions. All Library Studies / reviews according to the problems presented. The study / publication of the library contains a description of the process of action

From the above instruments the results are obtained that elementary school students can make good quality work. This can be seen from the papers compiled by students in the elementary school class. Problems raised are problems in learning. The problem of education in schools is very important for provision as an elementary school teacher, so students can be used to solving problems in elementary school.

Besides that scientific papers compiled by students are classroom action research in elementary schools. Classroom action research aims to improve and improve the quality of learning. If there are problems in the classroom, prospective elementary school teachers must be accustomed to finding the best to improve the quality of learning. Classroom action research is also one of the tasks of elementary school teachers to improve the quality of education in elementary schools

Conclusion

The ability to make assignments for students to make written work with structured assistance. By applying mentoring in the Scientific Writing Technique course, prospective elementary school teachers make professional writing.

The quality of writing made by students of prospective primary school teachers using structured assistance is quite good. This causes students to be guided to write papers from search results to find solutions and works in scientific papers.

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