

IMPROVEMENT OF SCIENTIFIC WRITING ABILITY THROUGH DUADIC ESSAY TECHNIQUES

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ABSTRACT

Students' scientific writing skills tend to be inadequate. Students find it difficult to express ideas and ideas in a scientific context. Observations made on Indonesian Language Education Students Semester VII of Indraprasta University PGRI showed symptoms of a lack of student scientific writing activity. Structured Dyadic Methods cooperative learning model basically can be applied by lecturers in scientific writing lectures. Structured Dyadic Methods (SDM) is a paired system, which emphasizes collaboration that enhances students' scientific writing skills. So the Dyadic Essay technique should be suspected to be able to improve students' scientific writing skills.

After going through a series of research processes, the dyadic essay technique as one of the cooperative learning models that only involves two members in one group (in pairs) and using structured techniques is proven to be able to improve scientific writing skills based on facts and data so that it is more easily poured into works scientifically coherent and systematic. There is sufficient influence between the dyadic essay technique on the scientific writing ability of Semester VII students in the Indonesian Language Study Program, with a r coefficient of 0.655. Through dyadic essay techniques, students with high levels of creativity have better writing skills so that there is interaction between and creativity in learning to write science.

Keywords: Scientific Writing, Dyadic Essay, Student of Sementer VII.

ABSTRAK

Kemampuan menulis ilmiah mahasiswa cenderung kurang memadai. Mahasiswa merasa mengalami kesulitan dalam menuangkan ide dan gagasan dalam konteks ilmiah. Observasi yang dilakukan pada Mahasiswa Pendidikan Bahasa Indonesia Semester VII Universitas Indraprasta PGRI memperlihatkan gejala kurangnya aktivitas menulis ilmiah mahasiswa. Model pembelajaran kooperatif tipe Structured Dyadic Methods pada dasarnya dapat diterapkan oleh dosen dalam kegiatan perkuliahan menulis ilmiah. Structured Dyadic Methods (SDM) adalah sistem berpasangan, yang menekankan kerjasama yang meningkatkan kemampuan menulis ilmiah mahasiswa. Maka teknik Dyadic Essay patut diduga dapat meningkatkan kemampuan menulis ilmiah mahasiswa.

Setelah melalui serangkaian proses penelitian, teknik dyadic essay sebagai salah satu model pembelajaran kooperatif yang hanya melibatkan dua anggota saja dalam satu kelompok (berpasangan) dan menggunakan teknis yang terstruktur, terbukti dapat meningkatkan kemampuan menulis ilmiah yang berdasar fakta dan data sehingga lebih mudah dituangkan ke dalam karya ilmiah yang runtut dan sistematis. Ada pengaruh yang cukup antara teknik dyadic essay terhadap kemampuan menulis ilmiah mahasiswa Semester VII Program Studi Pendidikan Bahasa Indonesia, dengan nilai koefisien r sebesar 0,655. Melalui teknik dyadic essay, mahasiswa dengan tingkat kreativitas tinggi mempunyai kemampuan menulis yang lebih baik sehingga ada interaksi antara dan kreativitas dalam pembelajaran menulis ilmiah.

Kata kunci: Menulis Ilmiah, Dyadic Essay, Mahasiswa Semester VII

INTRODUCTION

Students' scientific writing skills tend to be inadequate. Students find it difficult to express ideas and ideas in a scientific context. Observations made on Indonesian Language Education Students Semester VII of the University of Indraprasta PGRI showed symptoms of inactivity of students' scientific writing activities due to the lack of productive activities in writing, in addition to the lack of mastery of writing skills. Most students still depend on their friends. When given the task, only a few students work.

There is a need for guidance from lecturers to complete scientific work. The emergence of students' sense of boredom about the lecture process also makes students less enthusiastic. Thus, the learning of scientific writing requires breakthroughs and more varied learning activities. The subject of scientific writing is one of the compulsory subjects of the Indonesian Language and Literature study program at Indraprasta University, PGRI. The purpose of applying scientific writing courses is to prepare students to be able to write scientific work as part of the learning process.

The importance of scientific writing courses rests on the ability of students to apply correct scientific writing, so as to produce quality scientific work that can be scientifically justified. Therefore, students must understand and be able to find ways to improve their scientific writing skills so that writing a thesis, as one of the final tasks of the completion of the study, can be done well and on time.

There were problems found related to the ability to write scientific semester VII students. The tradition of writing is not optimal. The method of learning to write science is not yet right. Also, the lack of positive competition between students in scientific writing is allegedly a constraint. Many VII semester students experience the problems so that they are late in completing scientific writing assignments

One of the efforts that can be used by lecturers to improve student learning activities in scientific writing is to apply cooperative learning models. Isjoni (2011) states that cooperative learning is a teaching approach in which students work together in small study groups to complete individual or group assignments given by the lecturer. Collaboration in groups as one of the learning processes are expected to become more active.

Structured Dyadic is one of the methods of cooperative learning that is thought to improve students' writing abilities. This method is rarely applied by lecturers in lecturing activities. Through structured dyadic methods, students pair up and play role. One roles as a tutor and the other will role as a student. Tutors teach material and give quizzes to students. When students cannot answer the quiz, the tutor tries to find alternatives to help encourage students to think optimally. This method is carried out alternately. It is expected that the dyadic essay technique can improve the scientific ability of students in semester VII. On that basis, a study was conducted under the title "Improvement of Scientific Writing Ability through Dyadic Essay techniques in Semester VII Students".

The purpose of this study was to determine the effect of dyadic essay techniques to improve the scientific writing skills of semester VII students, in addition to describing the improvement in students' scientific writing skills through the facts or evidences in scientific writing.

The benefits of this research consist of theoretical and practical benefits. From a theoretical point of view, it can add insight and knowledge about dyadic essay techniques to improve students' scientific writing skills. From a practical point of view, it can help students in improving their scientific writing skills and become a material

for consideration in developing learning models to be applied in a more effective scientific writing lecture process.

LITERATURE REVIEW

1. Structured Dyadic Methods

Learning scientific writing in addition to practice, can be done through paired techniques or called Structured Dyadic Methods. According to Huda (2011), structured dyadic methods is one of the cooperative learning models that only involves two members in a group (in pairs) and uses structured techniques. Through this method, one student acts as a "lecturer" and another student acts as a "student". Structured dyadic methods can be called a way of cooperative learning.

In principle, cooperative learning is based on learning activities in groups to achieve information changes among groups of learners in order to achieve an increase in learning outcomes among its members. Through cooperative learning, students work in pairs to help one another in learning subject matter (Slavin, 2005).

This Structured Dyadic Methods has 2 methods, namely Classwide Peer Tutoring (CPT) and Reciprocal Peer Tutoring (RPT). Both of these methods involve peer tutors. One student acts as a "tutor" (tutor) and another student as a "tutor" (tutee). The tutor presents or asks a problem to the tutee. If the tutee is able to answer it correctly, he/she gets points. In CPT, when the tutee is unable to answer questions from the tutor, the tutor provides the answer, then the tutee writes the answer three times, reread the answer correctly, or even corrects the error which might be contained in the answer. In RPT, the tutor does not provide an answer directly, but encourages the tutee to think again or the tutor presents other alternative problems that could be reached by tutee. Every 10 minutes, each student changes roles. Rewards are given to couples who are able to get the most points.

The structured dyadic methods consist of three steps. The first is initial activities which is done by dividing groups of 2 people each. The second step is core activities which is done by providing an overview of the material to be studied, instruct to pair, and share roles, give assignments, and ask students to report the results of

assignments. The last is closing activities where students do questions and answers about the results of discussions that have been done and provide reinforcement or conclusions (Huda, 2011).

As a learning model, structured dyadic methods also have advantages and disadvantages. Ningsih (2012) states that the advantages of cooperative learning model of structured dyadic methods are a) it is more fun because learning with friends and b) students do not feel reluctant in the learning process because the teacher is his own friend. However, the drawbacks are: a) the learning process takes a long time and students tend to be incompatible with their partners. In general, structured dyadic methods can at least make students more active in the learning process and be able to foster student motivation (Ginanjar, 2014).

So it can be concluded, cooperative learning with structured dyadic methods is a learning process carried out by small groups to solve problems in a subject matter, as well as each member working together to improve their own learning outcomes

2. Ability to Scientific Writing

Scientific writing skills are important for students so that students are able to express ideas and ideas logically and systematically. According to Sutari (2007) writing is expressing ideas, feelings, and experiences by using writings that can be understood by readers and in accordance with the objectives intended by the author because writing is communicating expressing thoughts, feelings, and wills to others in writing. Moreover, the ability to write is a person's ability to express ideas, thoughts, knowledge, knowledge and life experiences in written language that is clear, coherent, expressive, can be read and easily understood by others, abilities that are active and productive in producing writings obtained through a continuous learning and training process (Subarti, 2007). Thus, the ability to write is a manifestation of a form of communication indirectly, not directly face to face with others, to express ideas, thoughts, knowledge and life experiences through written language so that the reader understands what the author meant.

Writing scientific papers is not only to express thoughts but to convey the results of conceptual thinking and discoveries that are accompanied by empirical evidence. The process of writing scientific papers requires a thorough review and evaluation stage of the concept of thought or the results that have been done and found in the field that we are going to write. However, the similarity between the requirements to produce ordinary writing with writing scientific works both requires clarity of thought, accuracy and responsibility. According to Setiabudy (1994), someone who has good writing skills will also have good thinking skills.

Eko Suliso M (1995, p. 11), "Scientific work is an article that is obtained in accordance with the scientific nature and is based on observation, evaluation, research in a particular field, arranged according to a particular method with the systematic writing of a polite language and its contents can be justified/scientific. Also, scientific writing is a text that discusses a particular problem, on the basis of certain scientific conceptions, by choosing a particular method of presentation as a whole, on a consistent scientific literature (Syamsudin, 1994). So, the ability to write scientific papers is the ability of a person to write with scientific thinking which is first based on observations, evaluations, and certain methods written and published in the form of reports that present the results of research or studies that have been carried out by an individual or team to meet the rules and scientific ethics are confirmed and obeyed by the scientific community.

Sujana (1995) suggested one example of scientific work that must be written by students at the Strata-1 (S1) College is scientific work. Scientific work is a scientific paper written and prepared at the end of the study program as one of the requirements to get a degree and this scientific work is written by undergraduate students (S1). Djuroto and Suprijadi (2005) explained that the discussion in scientific work must be carried out following the scientific thought flow that is logical and empirical (reasonable and in-depth), with proof in the form of data obtained from field research. According to Brotowidjojo (1985) an article is considered a scientific work if it meets the requirements, among others; scientific writing presents the application of natural law in specific situations, careful, precise,

honest (mentioning references or quotations clearly), not conjectural, not manipulating facts, systematic, supported and substantiated, sincere, and expository.

a. Influence Factors of the Ability to Scientific Writing.

The factors that influence the ability to write scientific work include:

1. Scientific work in universities must be written in brevity or not in length, in accordance with a predetermined amount.
2. Another consequence of brevity, is saving resources, especially regarding saving paper, ink, and storage space.
3. Prompts for students to publish their research results, together with lecturers in scientific form. the higher the tendency for students to appear in national and international scientific forums together with their supervisors, the better for the development of their scientific work and add valuable experience.
4. The existence of access to information such as the internet that is able to provide information easily and quickly, but not to be misused, and to look for sources of reference carelessly. In the research guidelines for scientific works, it is stated that obeying the format and typing requirements for writing scientific papers must be explained, so that from the beginning the preparation and writing of scientific papers can save time and energy to produce good scientific works. These factors are expected to be a reference in writing scientific papers, so as to produce quality scientific works.

b. Indicators of the Ability to Scientific Writing

Asropi (2014) suggests indicators of the ability to write scientific works, among others: able to explain the notions of written works, able to assess written works, able to explain their own excavation papers, able to explain written works in the form of research, mastering material according to the title, developing insight into thinking through writing. The indicators of writing the scientific work above, can be used as a reference in formulating a questionnaire into data that will be used in this study.

RESEARCH METHODS

The research method used is descriptive correlation research that aims to describe or give an overview of the scientific writing activities of students through the cooperative learning model type Structured Dyadic Methods. The subjects in this study were Semester VII Students of the Indonesian Language and Literature Department, Indraprasta University, PGRI. The study was conducted in September to December 2018.

The study population was all students of Semester VII of the University of Indraprasta PGRI who had taken courses in scientific writing. However, due to limitations, it was limited to 31 students. To ensure data accuracy, the research instrument used was also tested for validity and reliability.

The data is collected by using: 1) questionnaire and 2) documentation in the form of documents both in writing and electronically.

The hypotheses in this study can be presented as follows:

Ha = There is a significant influence between the Thesis Guidance Course on the Ability to Write Scientific Papers in Unindra Semester VII Students.

Ho = There is no significant influence between the Subjects of Scientific Writing on the Ability to Write Scientific Papers by Unindra Semester VII Students.

RESEARCH RESULT

Scientific writing is a writing that discusses a problem. The discussion was carried out based on investigations, observations, data collection obtained from a study, both field research, laboratory tests or literature review. Thus, in describing and analyzing the data, scientific thinking must be based. Scientific thinking, is logical and empirical thinking. Logical means reasonable, whereas empirical is, discussed in depth, based on facts that can be accounted for (can be proven).

Scientific thinking in the scientific sphere, consists of two levels, namely, the abstract level and the empirical level. Abstract level scientific thought has to do with reasoning. At this level, the thinker is free but somewhat bound by time or space. Whereas empirical thinking is related to observation. Because it is related to

observation, this empirical thinking is very much tied to time and space. This empirical thinking may be done in a certain time and space.

Based on a questionnaire distributed to 31 students, it was found that 69.70% of students admitted that the dyadic essay technique was classified as effective and appropriate to be applied in scientific writing courses. Students who have the opportunity to discuss and do question and answer reach 63.63% with dyadic essay technique. Even more than that, 94% of students stated that dyadic essay technique can enrich their knowledge and scientific writing skills, in addition to 91% stated that dyadic essay technique is very helpful in providing information on how to write a thesis in accordance with what is desired and 96% agree that dyadic essay technique can assist students in writing scientific papers. So it can be concluded that students are really helped by the existence of dyadic essay techniques in scientific writing courses.

In the process of scientific thought, one always starts with what is called a scientific approach. The scientific approach is a combination of two approaches, namely the inductive approach and deductive approach. Understanding of the inductive and deductive approaches needs to be done together, because the results achieved from the two approaches are different. Scientific writing is a series of writing activities based on the results of research, which are systematically based on scientific methods, to get scientific answers, to the problems that arose earlier. Many ways to find answers from these studies. To clarify scientific answers to problems or questions that exist in research, writing scientific papers must explore the treasures of literature, in order to complement theories or concepts relevant to the problem he wants answered. For this reason, scientific writing must be diligent and thorough in terms of reading and recording the concepts and theories that support scientific writing. Writing scientific papers still have to, prove, whether the answers can indeed be felt the truth. For this reason, other sources of information are needed to support the answers that have been obtained. The answers to the problems that exist in the study, can support and can also reject the existing hypothesis. If the answer supports the hypothesis, it can be said that the hypothesis is accepted, but if the answer does not support the hypothesis, then the hypothesis is rejected in this study.

Writing scientific papers, can only be done after a problem arises, which is then discussed (answered) through research activities. Because based on the results of research, at the end of writing scientific papers, a conclusion and recommendation is always presented. The conclusion is intended as the last thought of the review process through research, while the recommendations are intended for the next step in resolving the problems caused.

This study was strengthened by the alternative hypothesis being accepted while the null hypothesis was rejected. It means that there is a positive influence of the dyadic essay technique on the ability to write scientific papers of students, with a value of $t_{count} = 0.466$. While the correlation test results of the influence of the dyadic essay technique on the ability to write scientifically obtained $r = 0.655$. The correlation value between the thesis writing guidance course and the ability to write scientific papers by students is 0.655, which means that there is sufficient influence of the dyadic essay technique on the writing ability of the seventh semester students.

Dyadic essay, as one of the cooperative learning models that only involves two members in one group (in pairs) and using structured techniques, is proven to be able to improve students' scientific writing abilities. Scientific writing as the ability to express ideas that are logical, systematic, and objective can be trained through dyadic essay techniques.

Students will find it easier to find problems that need to find scientific answers to a problem. Through the theoretical process and submission of genesis, students will finally examine and act on each symptom logically and systematically so that it becomes the basis for drawing conclusions and recommendations. The conclusion is the final process in the analysis and study of a problem under study.

Students are also able to understand that writing scientific papers must be based on collecting data from the reality of the problem under study. Based on the facts in the field and the supporting data, students can finally pour in coherent scientific work and fulfill scientific principles. The findings from the results of the study, are a continuation of the conclusions or findings on the research conducted earlier. Because research is a process, the results of the study cannot be said to be good or bad. When

someone mentions that the results of their research are good or not good, or also mentions true or not true, then the designations are not correct

In the learning process, educators certainly expect that students can achieve maximum learning outcomes. Thus, educators always try to guide, teach, and direct their students to be able to write scientific works that are good and right. In line with that, students must take scientific writing courses with dyadic essay method that aims to facilitate students in writing scientific papers that are good and true and can later be useful for themselves and for others. Scientific writing courses using the dyadic essay method affect the ability to write scientific papers by Semester VII students of the Indonesian Language Education Study Program 2017/2018 academic year. This is evident from the results of the coefficient r value of 0.655 while the value of r_{table} 0.169 so that the correlation is classified as moderate / sufficient between variable X and variable Y , based on t count has a positive relationship between scientific writing ability and dyadic essay.

CONCLUSION

This study concludes that there is sufficient influence between learning of scientific writing courses with the dyadic essay method on the ability to write scientific papers for Semester VII students of the Indonesian Language Study Program academic year 2017/2018. This is evidenced by the coefficient r value of 0.655 which means that it has a sufficient/moderate effect between the variable X and the Y variable be accepted.

The dyadic essay method has proven to be more effective in learning to write science. Students with high levels of creativity have better writing skills so there is an interaction between the diadyc essay method and creativity in learning scientific writing. There is an influence between scientific writing courses with the dyadic essay method and the ability to write scientific papers for Semester VII students of the Indonesian Language Education Study Program 2017/2018 academic year.

REFERENCES:

- Akhadiah, Sabarti, dkk. 2007. *Pembinaan Kemampuan Menulis*, Jakarta: Depdikbud.
- Arikunto, Suharsimi. 2002. *Prosedur Penelitian: Suatu Pendekatan Praktek*. Jakarta: Rineka Cipta.
- Brotowidjoyo, Mukayat. 1985. *Penulisan Karangan Ilmiah*, Jakarta: Melton Putra.
- Buagian, M. Burhan. 2005. *Metodologi Penelitian Kuantitatif: Komunikasi, Ekonomi, dan Kebijakan Publik serta Ilmu-Ilmu Sosial lainnya, Ed.1*, Surabaya: Kencana
- Djuroto, Totok dan Bambang Suprijadi. 2005. *Menulis Artikel dan Karya Ilmiah* Bandung: Remaja Rosdakarya.
- Eko, Susilo, M. 1995. *Jenis-Jenis Karya Ilmiah di Perguruan Tinggi*, Semarang: Effhar Publishing.
- Isjoni. 2011. *Pembelajaran Koopartif; Meningkatkan Kecerdasan Komunikasi Antar Peserta Didik*. Yogyakarta: Pustaka Belajar.
- Martono, Nanang. 2012. *Metodologi Penelitian Kuantitatif*, Jakarta: Rajawali Press.
- Nasir, Moh. 2005. *Metode Penelitian*, Ciawi: Ghalia Indonesia.
- Noeng, Muhadjir. 2000. *Metodologi Penelitian Kualitatif*, Yogyakarta: Rake Surasin.
- Siregar, Syofian. 2014. *Statistik Parametrik untuk Penelitian Kuantitatif*. Jakarta: Bumi Aksara.
- S. Margono. 2005. *Metodologi Penelitian Pendidikan*, Cet. 5, Jakarta: Rineka Cipta.
- Soemanto, Wasty. 2004. *Pedoman teknik penulisan skripsi (karya ilmiah)*. Jakarta: Bumi Aksara.
- Sudijono. Anas. 2009. *Pengantar Statistik Pendidikan*, Jakarta: Rajawali Pers.
- Sugiyono. 2011. *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta.
- Sujana, Nana. 1998. *Dasar-Dasar Proses Belajar Mengajar*, Bandung: Sinar Baru Algesindo.
- Suryabrata, Sumadi. 2013. *Metodologi Penelitian*. Jakarta: Raja Grafindo Persada.
- Syamsudin, Munawar. 1994. *Dasar-dasar dan Metode Penulisan Ilmiah*. Surakarta: Sebelas Maret University Press.

Syaudih, Nana dan Sukamdinata. 1997. *Metode Penelitian Pendidikan*, Jakarta: Remaja Rosdakarya.

Tika, M. Pabundu. 2006. *Metodologi Riset Bisnis*, Jakarta: Bumi Aksara.