Problem-Based Learning Model And The Influence On The Outcome And Learning Satisfaction Of Elementary School Students In Tomohon City

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Abstrak

Guru memegang posisi penting untuk menciptakan suasana belajar yang aktif dan menyenangkan melalui penerapan model pembelajaran. Model Pembelajaran Berbasis Masalah (PBL) adalah pembelajaran yang menghadirkan situasi nyata dan bermakna yang menjadi dasar penyelidikan dan inkuiri siswa. Penerapan model kolaboratif berbasis masalah yang melibatkan siswa aktif dalam pembelajaran dapat menimbulkan kepuasan belajar siswa. Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran berbasis masalah terhadap kepuasan dan hasil belajar siswa sekolah dasar di kota Tomohon. Penelitian ini menggunakan pendekatan kuantitatif dengan desain penelitian quasi eksperimen. Variabel penelitian ini terdiri dari variabel bebas yaitu model pembelajaran berbasis masalah, variabel terikat terdiri dari hasil belajar dan kepuasan belajar. Hasil penelitian menunjukkan bahwa pada hasil belajar terdapat perbedaan nilai rata-rata kedua kelompok sebesar 4,262 dan diketahui nilai signifikansi p-level sebesar 0,091 yang lebih besar dari 0,05 (p>0,05). Sedangkan pada kepuasan belajar nilai signifikansi p-level adalah 0,088 yang lebih besar dari 0,05 (p>0,05).

Kata kunci: *model berbasis masalah, hasil belajar, kepuasan belajar*

Abstract

Teachers hold an important position to create an active and fun learning atmosphere through the application of learning models. Problem-based Learning Model (PBL) is learning that presents real and meaningful situations that act as a basis for student investigation and inquiry. Implementation of a problem-based collaborative model that involves active students in learning can lead to student learning satisfaction. This study aims to determine the effect of the problem-based learning model on the satisfaction and learning outcomes of elementary school students in the city of Tomohon. This study uses a quantitative approach with a quasi-experimental research design. The variables of this study consisted of the independent variables, namely the problem-based learning model, the dependent variable consisted of learning outcomes and learning satisfaction. The results showed that in learning outcomes there was a difference in the average value of the two groups of 4.262 and it was known that the significance value of p-level was 0.091 which was greater than 0.05 (p>0.05). Meanwhile, in learning satisfaction, the significance value of p-level is 0.088 which is greater than 0.05 (p>0.05).

Keywords: *problem-based model, learning outcomes, learning satisfaction*

INTRODUCTION

The 2013 curriculum expects students to have competencies in three dimensions, namely attitudes, knowledge and skills. Permendikud No. 21 of 2016 states that competence in the skills dimension of elementary school students is expected to have thinking and acting skills which include, creative, productive, critical, independent, collaborative, and communicative with a scientific approach that is adapted to the stage of student development. This is in line with what is emphasized in the collaborative model, namely maximizing the collaborative process, providing opportunities for students to actively participate in learning activities, developing critical thinking and problem-solving skills, encouraging students to explore learning materials from various points of view and fostering mutually supportive and supportive relationships. appreciate (Nelson, 1999).

Implementation of a problem-based collaborative model that involves active students in learning can lead to student learning satisfaction. Research conducted by Unal and Cakir (2017) reports that students are satisfied with the use of a learning environment that can encourage students to play an active role and by using a collaborative learning model. The sense of student satisfaction is felt through their learning experiences, namely learning that can motivate learning, learn more knowledge, active learning and develop various skills so that there is fun in learning.

There are still many learning processes that pay less attention to student satisfaction in learning. The lack of students experiencing part of learning results in dissatisfaction in learning. Learning that should be experienced by every student but not in accordance with the needs of students in their development. Student learning satisfaction is a positive attitude towards the learning process that is carried out because of the compatibility between expectations and needs with the reality that is obtained (Sopiatin, 2010). Students will feel satisfied when their learning needs can be met and in line with expectations.

Based on this background, the formulation of the problem in this study is; (1) Is there an effect of the problem-based learning model on the learning outcomes of elementary school students? and (2) Is there any effect of the problem-based learning model on the learning satisfaction of elementary school students?

Research methods

This study uses a quantitative approach with a quasi-experimental research design. The variables in this study consisted of independent variables, namely the problem-based collaborative model (X), the dependent variable consisted of learning outcomes (Y1) and learning satisfaction (Y2). This study aims to determine the effect of problem-based collaborative models on learning outcomes and student learning satisfaction. The research design used was a *non-equivalent control group design* . *The pre-test* was carried out before the treatment and the *post-test* was carried out after the treatment. This design has two groups, namely the experimental group and the control group. The experimental group was given treatment by applying a problem-based collaborative model and the control group was given treatment by carrying out conventional learning as usual, namely the lecture method.

The following is the experimental procedure shown in Figure 1

Figure 1. Research Procedure

Research result

Statistical calculations to see the average pretest and posttest data on learning outcomes in each group used *paired t test analysis* with the help of SPSS 21 for Windows. The average test results on student learning outcomes data in the experimental group are known that the number of 31 students in the pretest results with an average obtained of 65.48 and a standard deviation of 10.670. The posttest results obtained an average of 78.90 and a standard deviation of 11.235. Based on the results of these calculations, it can be concluded that the posttest average score is greater than the pretest average value and the posttest results have a more heterogeneous score than the pretest results in the experimental group.

The average results in the control group student learning outcomes data can be seen with the number of 31 students that the pretest results with an average obtained 63.55 and a standard deviation of 8.254. The posttest results obtained an average of 74.42 and a standard deviation of 9.258. Based on the results of these calculations, it can be concluded that the posttest average score is greater than the pretest average value and the posttest results have a more heterogeneous score than the pretest results in the control group.

a. **Learning Outcomes on Observing the Implementation of Student Activities Learning.**

Aspects of student activities that are observed are guided by learning by applying a problem-based collaborative model. The results of observations of student activities in **the experimental group learning are** known to the results of student activities on learning in the experimental group. At the first meeting with a maximum score of 64, it shows that the learning activities obtained a score of 49 with a percentage of achievement of 76% and the results of good qualifications (B). At the second meeting with a maximum score of 68, it shows that the learning activities obtained a score of 57 with a percentage of 83% and the qualification results are good (B). At the third meeting with a maximum score of 60, it shows that the learning activities obtained a score of 54 with an achievement percentage of 90% and very good qualifications (SB).

The results of observations of student activities in the control group learning with conventional learning are known to the results of student activities on learning in the control group. At the first meeting with a maximum score of 72, it shows that the learning activities obtained a score of 52 with an achievement percentage of 70% and good qualification results (B). At the second meeting with a maximum score of 52, it shows that the learning activities obtained a score of 41 with a percentage of 78% and the results of the qualification are good (B). At the third meeting with a maximum score of 44, it showed that the learning activities obtained a score of 38 with an achievement percentage of 86% and very good qualifications (SB).

Based on the results of observations in the experimental group and the control group, it can be concluded that the experimental group as a whole has an average score of 84%, which is at a success

level of 70%-85%, while the control group as a whole has an average score of 78% at a success level of 70. % - 85%. This shows that both groups have the same learning implementation with good qualifications (B).

b. Description of Learning Satisfaction Data Based on Questionnaire Results

Learning satisfaction is measured using a questionnaire and observation of learning satisfaction. The questionnaire was given after completing the learning process and while the observation of learning satisfaction was carried out during the learning process. The resulting questionnaire data is in the form of pretest and posttest data which describes the level of student learning satisfaction in the experimental group. The results of the pretest of learning satisfaction in the experimental group 5 can be seen that the scale of learning satisfaction in the pretest data of the experimental group is that the highest student frequency is in the range 13.33 - 20.00 as many as 18 students (58.1%) are in the satisfied category. The frequency of students who have a perception scale of learning satisfaction in the quite satisfied category is at the interval 6.67 - 13.33 as many as 13 students (41.9%). Furthermore, there were no students who had a perception scale on learning satisfaction in the less satisfied category.

The posttest results of the experimental group student learning satisfaction questionnaire can be seen that the learning satisfaction scale in the experimental group posttest with the largest student frequency is in the range of 13.33 - 20.00 as many as 25 students (80.6%) in the satisfied category. The frequency of students who have a perception scale on learning satisfaction in the fairly satisfied category is in the interval 6.67 - 13.33 as many as 6 students (19.4%). Furthermore, there are no students who have a perception scale on learning satisfaction in the less satisfied category.

Furthermore, for the control group with conventional learning learning satisfaction it is known that the learning satisfaction scale in the pretest control group at the highest student frequency is in the range 13.33 - 20.00 as many as 23 students (74.2%) are in the satisfied category. The frequency of students who have a perception scale of learning satisfaction in the quite satisfied category is at the interval 6.67 - 13.33 as many as 8 students (25.8%). Furthermore, there were no students who had a perception scale on learning satisfaction in the less satisfied category.

c. Description of Learning Satisfaction Data Based on Observation Results

The results of observing student learning satisfaction in the experimental group learning showed that at the first meeting student learning satisfaction obtained a score of 28 with an achievement percentage of 70% and less qualification results (K). At the second meeting, it showed that student learning satisfaction obtained a score of 31 with a percentage of 77.5% and good qualification results (B). At the third meeting, it shows that student learning satisfaction scores 34 with an achievement percentage of 85% and good qualifications (B).

The results of the observation of student learning satisfaction in the control group study showed that at the first meeting the student's learning satisfaction got a score of 27 with an achievement percentage of 67.5% and less qualification results (K). At the second meeting, it showed that student learning satisfaction got a score of 32 with a percentage of 80% and good qualification results (B). At the third meeting, it showed that student learning satisfaction got a score of 32 with a percentage of 80% achievement and good qualifications (B).

Test the hypothesis to determine the difference in the average between the experimental group and the control group. The data that was carried out to be tested was the data from the posttest results of the study results of the two groups. Based on the statistical calculation of hypothesis testing using the *Independent Sample Test* , it was found that the difference in the average value of the two groups

was 4.262 and it was known that the p-level significance value of 0.092 was greater than 0.05 (p>0.05), which means H0 is accepted and H1 is rejected. These results prove that there is no difference between learning using a problem-based collaborative model and conventional learning. Thus the problem-based collaborative model has no effect on student learning outcomes.

Test the hypothesis to determine the difference in the mean between the mean of the two groups, namely the experimental group and the control group. The data that was carried out to be tested was the data from the posttest results of the learning satisfaction of the two groups. Based on the statistical calculation of the hypothesis test using the *Mann-Whitney U Test,* the p-level significance value of 0.089 is greater than 0.05 (p>0.05), which means H0 is accepted and H1 is rejected. These results prove that there is no difference between learning using a problem-based collaborative model and conventional learning on learning satisfaction. Thus the problem-based collaborative model has no effect on student learning satisfaction.

After testing the hypothesis, the results show that the problem-based collaborative model does not have a significant effect on learning outcomes. This is proven based on the acquisition of a significance value of 0.088 > 0.05. Thus there is no difference between the problem-based collaborative model and conventional learning even though the score looks different for the two groups. This is different from several previous studies which showed influential results, namely Fleischman & Hutchison (2012) stated that by using a collaborative model there was a positive response from students as seen from the learning process that went on pleasantly and increased learning outcomes. While Susilowati (2015) reports that problem-based collaborative models can affect learning outcomes in the form of affective and cognitive aspects of students. Balta & Awedh (2017) state that applying a problem-based collaborative model can influence student learning, especially in the context of collaborative problem solving when compared to individual learning.

Discussion

After testing the hypothesis, the results show that the problem-based collaborative model does not have a significant effect on learning outcomes. This is proven based on the acquisition of a significance value of 0.092 > 0.05. Thus there is no difference between the problem-based collaborative model and conventional learning even though the scores look different from the two groups. This is different from several previous studies showing influential results, namely Fleischman & Hutchison (2012) which states that with the use of the collaborative model there is a positive response from students as seen from the learning process that runs smoothly and learning outcomes increase. Meanwhile, Susilowati (2015) reports that problem-based collaborative models can affect learning outcomes in the form of affective and cognitive aspects of students. Balta & Awedh (2017) state that applying a problem-based collaborative model can affect student learning, especially in the context of collaborative problem solving when compared to individual learning.

Based on the findings of the several studies that have been mentioned, several factors influence the model's influence on student learning processes. First, the problem-based collaborative model has an influence on student learning processes and learning outcomes increase. This is because the collaborative model conditions students to be actively involved in the learning process. Smith and MacGregor (1992) said that the collaborative model is based on one of the assumptions about the student process in learning, namely learning is an activity that involves activeness and constructs knowledge. Student activeness is needed to learn a learning material as a sign of a positive response that students experience learning. In addition to student activity, students need to integrate the knowledge they already have with the knowledge they have just acquired so that students build new meaning from what they have learned.

Galserfeld in Pannen (1991) suggests several abilities needed in the process of building meaning, namely the ability to remember and express, the ability to compare and make decisions about similarities and differences, and the ability to prefer one experience over another. Second, the problem-based collaborative model has an influence on the cognitive and affective aspects. Smith and MacGregor (1992) assume a collaborative model in learning, namely learning is a process of social interaction. One of Dewey's thoughts on education is that education is a democratic procedure in which students understand and respect each other (Jacobs et al., 1996). Social interaction that includes real life in a community that respects and understands each other so that it can build meaning that is mutually accepted or agreed upon. According to Yackel and Cobb (1996) it is explained that building shared meaning begins with personal self-meaning which then results in mutual influence between interacting subjects so as to form a shared meaning that is accepted or agreed upon. Third, problem-based collaborative models have an influence on student learning processes in activities that require collaborative problem solving thinking skills. The advantage of using problem-based learning is that it helps students develop problem-solving thinking skills and helps develop collaboration skills (Tatar., et al in Ceker and Ozdamli, 2016). Learning that begins with a problem requires discussion to be solved with the group. The questions posed will produce answers that are double meaning so that students have different perspectives to solve daily problems in the environment. This helps students build a broad and flexible knowledge base, develop problem-solving skills and become effective collaborators (Cindy & Hmleo-Silver in Ceker and Ozdamli, 2016).

The results of this study are in line with research conducted by Fakomokbon and Bolaji (2017) results show that the collaborative learning model does not affect student performance. This is due to the lack of students collaborating in learning. Starting from the formation of heterogeneous groups, students tend to be reluctant to join students who are not too familiar and they only want to be in groups with closeness. Teachers need to pay attention to the obstacles that will occur in the application of collaborative models, namely students not instinctively working in collaboration, facing the characteristics of students who are quiet or shy and even feel left out or do not want to participate in groups, and students who are dominant (Edmond and Tiggeman, 2009). Teachers need to analyze the obstacles that might occur by paying attention to these obstacles teachers can be more vigilant and overcome the obstacles encountered in learning. The results of these findings are that there are several factors that cause no effect on problem-based collaborative models on learning outcomes in learning. These factors include teachers, students, learning and the treatment process. First, the teacher factor. The learning that has been carried out is still teacher-centered. One of the dominant learning environments in schools is the quality of teaching (Sudjana, 2013). The learning process takes place the model teacher transfers material in learning to students having good teaching quality such as delivering material that is easy to understand, creative in using media, understanding student characteristics, melting frozen conditions with a little joke and so on. The model teacher in carrying out this treatment is still in full control or can be said to be a teacher center. The existence of the teacher is very important in learning which is one of the instrumental factors that can affect students' learning (Nasution, 1998).

The class dynamics that occur are benefits that can be felt in the context of using a problem-based collaborative model. Brufee (1981) that collaborative learning needs to know and master group dynamics (class dynamics) as an emotional process in learning and the impact of students working in groups. Thus collaborative learning can change classroom conditions so that teachers need to understand every change that occurs during the learning process. Changes in class dynamics can be seen very clearly in the physical environment of the class. Learning using a collaborative model begins with students sitting down and being able to see each other's faces (Gitterman, 2008). Changes in class dynamics occur starting from a change in the form of class seating which was originally a one-way form,

namely all students facing the front of the class to a form of sitting facing each other so that it can facilitate students in group discussion activities. Group discussion activities involve the active participation of students so that interactions can run. Class dynamics that occur during group discussions in which students participate to start interacting by asking questions to invite other students to answer. A question asked not only engages them in productive thinking but can also provide valuable information to discussion members (Davidson and Major, 2014). The questions posed elicited various answers from other students so that the discussion proceeded. At first students were reluctant to ask questions, but after carrying out learning with a problem-based collaborative model that required students to actively ask questions. In the end, some students were able to ask questions even though they had not yet formed an active discussion.

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