Quizizz Aided Circ Type Cooperative Learning Model To Improve Problem Solving

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Abstract
This study aims to see the improvement of students' mathematical problem solving abilities using a learning model using cooperative integrated reading and composition type Circ (cooperative integrated reading and composition) learning assisted by Quizizz to improve problem solving . This model is learning by delivering teaching materials that he guardians by forming groups, provide discourse according to the topic of learning, students work together to read each other and find the main ideas contained in the discourse then provide responses to the discourse written on paper sheetss, Students present / read out the results of group discussions, the teacher provides reinforcement and makes conclusions together. The research subject was the research subject was the student of class X MAN 1 Palembang in the academic year 2020-2021. This method is Quasi-Experimental. There are two types of research data. Quantitative and qualitative data. Data were analyzed using descriptive analysis and obtained calculations. It was found that students who received learning with the Circ type cooperative learning (cooperative integrated reading and composition) assisted by Quizizz showed a post test score that was greater than conventional learning.

Keywords: *CIRC; Quizizz, Mathematical Problem Solving;*

INTRODUCTION

Humans are always required to find solutions to existing problems in accordance with the ever-developing times. Education is the basis for being able to continue the search for solutions to an ever growing problem. In the learning process, many aspects are learned, one of which is learning that is closely related to everyday life, namely learning mathematics (Munarsih: 2016). One of the objectives of learning mathematics in Permendiknas No.22 of 2007 concerning content standards is understanding mathematical concepts, explaining the relationship between concepts and applying concepts or algorithms in a flexible, accurate, efficient and precise manner in problem solving. Mathematics is said to be an organized structural knowledge, the properties of fat or theory are made deductively based on defined elements, axioms, proven theories (Priyanto, 2009).

Many problems in our lives must be solved by using mathematics such as calculating, measuring, and so on. In studying mathematics students are always faced with structured, systematic and logical mathematical problems that can accustom students to solve problems that arise independently in their lives without having to always ask for help from others (Qodariyah: 2013). (Polya 1973: 222) defines that problem solving is an attempt to find a way out of a difficulty in order to achieve a goal that is not so easy to immediately get (Susilawati, 2008: 111) many students have difficulty understanding the

meaning of sentences in story problems The abstract nature of mathematical objects causes many students to experience difficulties in learning mathematics.

According to (Neni: 2012), it is not possible to functionally connect the elements that are known to solve the problem, and which elements must be exemplified with a variable. Many students have difficulty understanding the meaning of sentences in story problems, are less able to sort out what is known and what is asked , are unable to functionally connect known elements to solve the problem, and which elements should be considered with a variable (Qodariyah: 2013). And also based on the results of the observation survey and researcher interviews with mathematics subject teachers at MAN 1 Palembang that students at MAN 1 Palembang still have difficulty understanding the problem in an abstract form.

Therefore, it is necessary to make improvements in mathematics learning in order to improve student learning outcomes. Efforts to improve student learning outcomes in understanding mathematics material are in the form of models, methods, approaches and learning strategies. One of them is using the cooperative integrated reading and composition (CIRC) model.

According to (Uno and Muhamad 011: 115), CIRC (Cooperative Integrated Reading And Composition) is a type of cooperative learning model which is an integrated composition of reading and writing cooperatively (groups), namely reading material taught from various sources and then writing it down. into written form which is done cooperatively. This model was developed to increase the ability of students to read and receive feedback from reading activities that have been carried out. According to (Sutarno, et al. 2010: 1), the CIRC type of cooperative learning is a cooperative learning model that integrates a reading comprehensively and then composes it into important parts. mathematics, especially in solving story problems.

Several studies that show that the CIRC type of cooperative learning model can improve student learning outcomes in solving story problems, namely (Makky: 2009) concluded that the application of the CIRC type cooperative learning model can increase learning activities and learning outcomes of students at MTs NU Nurul Huda class VIIIB for completion of SPLDV story questions . Furthermore, research conducted by (Mauhibatul, et al: 2013) states that applying the CIRC cooperative learning model on the subject of slices and a combination of two sets in class VII A SMP 1 Islam Jember can improve student learning outcomes .

The ability to solve math problems in students can be seen through questions in the form of descriptions. With the questions in the form of descriptions, it can be seen the steps taken by students in solving a problem. One or more description in mathematics in the form of a story problem. According to (Hudojo 2005: 25) story questions are questions that are limited to everyday problems. Story problems are found in every discussion of the material because they are examples of application in everyday life .

In general, story questions are more difficult for students to solve than questions that directly involve numbers. The difficulty factor lies in the structure of language and mathematics. This statement is in accordance with the opinion of Kennedy, et al in (Hudo jo 1990: 187) which states that questions related to numbers are not so difficult for students but questions that use sentences make it very difficult for students with less ability.g. The problem solving ability is an application in understanding the concept, the reality in the field of mathematical problem solving ability is still unsatisfactory. This can be seen from several research results that have been conducted by (Kadir 2010), (Ibrahim 2011) and (Hutagaol 2012) at primary and secondary schools. Mathematics learning has so far only been developed with a theoretical learning pattern, giving examples of questions and exercises, students are instructed to record concepts from the material presented without understanding what they note, even students are less able to understand the concepts in their notes, typea is again given an example problem.

Based on empirical data above, and theoretically that students can learn to actively use the instructional model of learning to make use of n type of cooperative learning Circ (cooperative integrated reading and composition) assisted Quizizz , where students can construct their knowledge with the freedom propose ideas of questions made by the teacher so that students can improve their mathematical understanding and problem solving abilities.

Based on the description above, the authors are interested in conducting research with the title "Learning model using cooperative learning type Circ (cooperative integrated reading and composition) assisted by e-learning Quizizz to improve problem solving class 10 students of MAN 1 Palembang".

Specific problems are arranged into several research questions to determine research steps to be more operational as follows. How is the improvement of students' mathematical problem-solving abilities who get a learning model using a learning model using Cooperative Integrated Learning and Composition type with Quiziiz assistance better than students who get conventional learning in terms of overall students? And the goal to be achieved in this study is to comprehensively examine the improvement of students' mathematical problem solving abilities after receiving a learning model with Cooperative Type Circ (Cooperative Integrated Reading And Composition) assisted by Quiziiz and conventional learning in terms of: the whole student.

METHODS

This research is a *Quasi-Experimental* research because the subjects are not randomly grouped, but are accepted as they are (Ruseffendi, 2005). The selection of this *Quasi-Experimental type* is based on the consideration that the existing class is pre-formed and students have registered according to the existing curriculum, so that random grouping is no longer carried out.

In this study, researchers provided the treatment is learning to use the model of learning by using learning model with mengg unakan cooperative learning CIRC (cooperative integrated reading and composition) assisted Quizizz (PMCIRCQ) are applied to the experimental class. The ability measured in this study is the ability to solve mathematical problems (KPMM). The research design used was the non-equivalent pretest and posttest control group design or the *Nonequivalent Pre-Test and Post-Test Control-Group Design* (Creswell, 2009). The variables in this study consisted of independent variables, dependent variables, and control variables. The independent variable is learning using a learning model using a learning model using circ type cooperative learning (cooperative integrated reading and composition) assisted by Quizizz (MPCIRQ). The dependent variable is the ability to solve mathematical problems (KPMM). The control variable is the student's initial ability.

The initial ability of students is obtained from the test results whose material is a prerequisite for Mathematics subject PLDV material. The dependent variable is studied in a more comprehensive manner, in terms of learning, KAS, and overall students. The population in this study were students of class X MAN 1 Palembang, while the sample was students of class X1 and X2. Two Variable Linear Equations learning materials. odd semester 2020-2021.

RESULTS AND DISCUSSION

Result

To memperole h g ambaran CAR student outcomes, the data were analyzed descriptively to determine the mean and standard deviation score pretest, posttest and n-gain CAR student based learning, KAS, and overall. The questions for the KPMM test consist of 4 valid and reliable questions that can be used as a test instrument consisting of 10 indicators that are analyzed. Based on the test results of the test instruments, four test questions were obtained . The improvement of student's KPMM based on learning (MPCIRQ and PK), KA S (high, medium, low), and the whole is more clearly , Before conducting the test, first the analysis prerequisite test was carried out, namely the data normality test and the variance homogeneity test. This reseacrh it can be seen that the data on the increase in KPMM in the MPCIRQ and PK groups are normally distributed with a significance value greater than 0.05 and the variance is homogeneous because F counts <F table, namely 0.962 <1.7. Therefore, to find out whether there is a difference in the mean increase in KPMM between the two learning groups (MPCIRQ and PK) can be done using the *t*- test . The summary of the t test results can be seen in Table 4 below:

The questions for the KPMM test consisted of 4 questions consisting of 10 indicators that were analyzed. To get a picture of the quality of students' KPMM, the data were analyzed descriptively to determine the mean and standard deviation of the pretest, posttest KPMM students based on learning, KAS as a whole. The complete descriptive statistics of student KPMM data, it can be concluded that the average test score using the learning model (MPCIRQ). better than conventional learning Activities that arise during learning using the CIRC Learning model with Quizizz are 10% writing, 60% asking questions, 40% giving suggestions, and 50% giving responding opinions, 60% remembering, 80% solving questions, and 80% analyzing.

Discussion

This research it can be seen that overall students who get lessons using CIRC Learning with Quizizz show a higher KPMM increase than students who get conventional learning, from the t value calculation with the t-test formula . B erdasarkan calculations, the t - $hitung$ model class learning with Quizizz CIRC is obtained count value T -5.82 with the sign value (sig 0.000) <5%, which means that there are differences in the treatment of the control class in grade students XM AN 1 Palembang academic year 20 20-20 21, students getting learning by using MPCIRQ with Quizizz shows the average post-test were larger than students who received conventional learning 0.5545> 0.1190 means that learning to use the model coopera tive script can enhance problem solving abilities are better than conventional learning. (Munarsi: 2016) that there is an effect of learning outcomes using the cooperative integrated reading and composition model in the basic introductory subject of ematics as well as research carried out as well as according to (sulistiyaningsih: 2014) The use of cooperative learning type CIRC can effectively improve students' mathematical connection skills. .

According to (Anggraeni, et al. 2017) it shows that there is an increase in the average score of students from the results of learning outcomes tests. (Margianto: 2017) The CIRC type of cooperative learning method also plays a significant role in increasing student motivation in mathematics learning which includes student activism in asking teachers, courage to respond to other students 'work and students' enthusiasm in doing questions. By applying this learning method, students can build their own knowledge, build a closer relationship between students and other students so that students will participate in learning so that students' learning outcomes increase mathematics. By improving the way of teaching through the CIRC type of cooperative learning method, the teacher no longer dominates the learning process because students also actively participate in learning so that the teacher only acts as a facilitator.

The results of this research and development resulted in interactive electronic teaching materials (BAEI) assisted by *Google Slides* and *Quizizz* . Berd asarkan angketvalidasi results obtained an average of 3.76 olehahli material, and 3.48 by experts mediadengan very menarik.Sedangkan criteria responsiswa test results obtained an average score of 3.34 to the criteria of the test results sangak menarik.Ditinjau *effect s ize* obtained an average of 0.72 in the medium category. (Setiawan: 2019) a significant increase in the results of the observation of student process skills in the learning process that implements the Game Quizizz to solve questions related to the SPL TV material, the method of elimination and the method of determination. (Mintarsih: 2020) states that learning motivation increases by using the quizizz application. And the activity that appears most when learning cooperative scripts is analyzing problems and solving problems by 80%

CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the data from the results of hypothesis testing, from the results of this study it can be concluded that the increase in the mathematical problem solving ability of students who get learning using the CIRC Learning model with Quizizz is better than students who get conventional learning in terms of overall and student cash flow.

Suggestion

The results of this study are expected to be an alternative in class learning as a reference for teachers in applying learning methods and models that can improve student learning outcomes.

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