



Increasing Problem Solving Ability and Motivation Learning Through Grand of Math Teacher Comments on Results Homework (PR)

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Abstract: *Mathematical problem solving ability and student motivation Dipawangi Cianjur SDN is considered still low, and the low level of participation of students with homework, the reason for the emergence of this study. This study used mixed methods Embedded Design. The population is all students of SDN Dipawangi with grade samples VA and VB. The instrument used was a test and non-test instrument. The test instrument in the form of question pretest and posttest, while the non-test questionnaire, observation sheets, and interviews. This research resulted in several conclusions: 1) The mathematical problem solving ability of students treated teachers commenting on the results of PR is not better than students who did not receive such treatment; 2) there is no difference in mathematical problem solving abilities increase significantly, between students who received treatment commenting on the results of PR teachers and students who did not receive such treatment; 3) The students' motivation treated teachers commenting on the results of PR better than students who did not receive such treatment; 4) there is a positive correlation between mathematical problem solving ability of students with student motivation.*

Keywords: *Comments Teacher, Homework (PR), Troubleshooting, Motivation.*

1. Preliminary

Education has an important role in the life of the nation in an effort to create quality human resources. Basic education is the beginning for further education, and is an integral part of the overall national education system. To improve the quality of education, the government has run to-wins

the 9-year basic education, 6 years at the elementary level and three years at junior high school level. Primary education provides basic supplies to the students, to be able to develop lif-THEIR and ready to follow further education.

Mathematics, which is the basis for every discipline, needs to be given to all students from primary schools. Students are provided with the ability to think logically, analytical, systematic, critical, problem solving, creativity, and ability to cooperate. These competencies necessary for students to have the ability to acquire, manage, and use information in order to survive in a state that is always changing, uncertain and competitive.

Some problems are quite disturbing to teachers and parents, among them about homework (PR). Does having a PR or no PR? How long the student is expected to learn at home? At what age, class and where to start penuga ladder-san PR? Can students be successful in achieving a good achievement without PR? Is it worth the time to check homework and teachers write comments on students' homework has been completed? It would be very desirable to answer all these questions for all subjects and all levels of schooling.

Students tend to be menyele-saikan tasks (including PR) and improve the quality of their learning when they get consistent feedback and constructive (Paulu, 1995:18). Arends (2012:232) states that the feedback provided can be teacher comments on the results of PR students. The provision of these comments can be given in writing or oral (verbal). According Ghandoura (1982:80), the students were treated writing comments on the results of PR, was obtained a score higher than students who are not given such treatment

Beutlich (2008:11) states that homework (PR) has varying degrees to their effectiveness. It is important for teachers to know what elements are doing homework (PR) to be more effective for students. Two factors contribute to the effectiveness of homework that student motivation and parental involvement.

Based on the reviews and the above phenomenon, the author felt the need to do research with the title "Upgrading Pemeca-han and Motivation Mathematical Problems Through a Master's Comments on Results Homework (PR)". It is expected that the problem solving and student motivation can be increased with treated teachers commenting on the results of PR.

2. Homework

Homework (PR) is a specific task or job either written or oral that must be done outside school hours (especially at home). PR deals with subjects that have been submitted by teachers to improve the mastery of concepts or skills and provide development. PR done by the students and checked by the teacher (Cooper, 1989:1)

Work assignments (homework) is very important in the defense-jarkan students at home and there is no direct communication between teachers, students, and parents. Therefore, using the strategy of estab-belajaran homework (homework) given by teachers in schools, as a support to maximize student learning outcomes, as well as the attention of the parents also become supporters (Paulu, 2006:1).

Homework is not just about academic values that would be obtained at the school. This is consistent with the opinion Arends (2012:45), that PR can be a means for social communication among students, and the source of the interaction between the students and their parents.

Arends (2012:312) suggest guidelines for assigning homework is as follows:

- a. is an interesting, potentially fun and make sure students understand their duties.
- b. give students a challenging homework and convince them to complete successfully.
- c. provided with a frequency that often and little, rather than rare but significant amounts.
- d. inform parents about the level of involvement is expected of them.
- e. make clear rules on deadlines and other details necessary things.

The Apostle Paul (1998:16) also established guidelines on how long students should spend the time to do homework per day. The guidelines are as follows:

- a. grades 1-3 :< 20 minutes
- b. grade 4-6 :20-40 minutes
- c. grade 7-9 :< 2 hours

d. 10-12 class :1 ½ - 2 ½ hours

3. Feedback

According to Slavin (1997:80), feedback or feedback is information about the results of the efforts that have been made student learning. Another definition of feedback is also conveyed by the Arends (1997:62), that the information given to students about their performance; for example on the knowledge they gained from learning

Arends (2012:232) argues that teachers can provide feedback to students in various ways, such as verbal, video or sound recording, testing, or through written comments. The guidelines are quite important about the feedback is as follows:

- 1) provide feedback as soon as possible after exercise.
- 2) strive for specific dan clear feedback.
- 3) feedback is aimed directly at behavior.
- 4) maintain proper feedback to the developmental level of students.
- 5) give praise and feedback on the correct performance.
- 6) if it gives negative feedback, should be shown how to do it right.
- 7) help students concentrate on process and not results.

4. Mathematical Problem Solving Ability

According Duncker (Adams, 2007:16), a problem arises when the living creatures have a purpose, but do not know how to achieve that goal. Based on the structure, Reitman (Adams, 2007:17) states that the problem can be divided into two types, namely:(1) The problem defined perfectly (well-defined) or closed matters and (2) the problem is defined as a weak (ill-defined) or problems. While based on the context Carpenter and Gorg (Prabawanto, 2013:19) mengiden-tifikasi problem becomes:(1) a mathematical problem related to the real world (outside of mathematics) and (2) the problem mathematically pure (pure mathematical problems) are attached as a whole in mathematics.

Mathematical problem solving ability is very dependent on the problems that exist in mathematics. Therefore, the need for a discussion of mathematical problems (Prabawanto, 2009:54).

Arifin (Kesumawati, 2010:38) reveals troubleshooting indicators, namely (1) the ability to understand the problem; (2) the ability to plan problem solving; (3) ability to perform the work or calculations; and (4) the ability to perform inspection or pengece-kan back.

Students can succeed in solving the problem, if teachers are confident in completing various types of mathematical problems and was able to teach a variety of skills needed (Yee, 2009:54).

According to Caballero (2011:282), when students solve problems, they are often an adventure with feelings and emotions that cause tension during the search for solutions / strategies, to find a solution to these problems. This could have led to an interest, or even vice versa, hampered by negative emotions that trigger anxiety.

According to Rachmat (2001:80) there are four factors that influence the problem solving process:(1) motivation; (2) beliefs and attitudes are wrong; (3) a habit; (4) emotion.

5. Motivation

Motivation is generally defined as a state of the self that can generate, directing and maintaining behavior (Woolfolk, 2009:186). Motivation is not observed directly, but rather inferred from some clues as verbalization, choices tasks and activities directed at a specific destination. Motivation is a clear concept that helps us to understand why people behave the way they do (Schunk, 2012:346).

Waage (2009:85) states that the motivation of students can be shown in the consciousness (cognition), emotions (emotion) or habits (behavior). For instance, the motivation of students to get a good performance in mathematics can be shown in the excitement (emotion), if you get a high score on a test. Motivation of students can be shown by the study (behavior) to face a test, as well as in new learning concept (cognition) when studying for a test.

According to Woolfolk (2009:188), teaching can create intrinsic motivation by linking student interest and competencies that support growth. If the teacher has always stressed the intrinsic motivation to energize all of their students, he will be disappointed. Teachers should encourage and

foster intrinsic motivation, extrinsic motivation while ensuring that support learning.

The following points indicate that the feedback (feedback) mem-possess strong relationships with student motivation:

- To increase motivation to learn, the important thing to remember when giving feedback teachers, especially the negative ones is a sense of security (comfortable) students. Teachers should blow-Give negative feedback with warmth, hospitality, and far from being mocking or condescending. So students still comfortable despite getting a correction or negative feedback (Arends, 1997:160).
- Moreover, according to Kulik (Slavin, 1997:32), so that *feedback* can provide motivation to the students, then the feedback should be given-right with a clear and specific. It is important for all levels of student development, especially for lower grade students.
- Kulhavy and Stock (1989:280) states that *feedback* specific informational and motivational (motivasi improve student learning).
- Clifford (1990:23) states that once a negative feedback-pun can enhance children's learning motivation, origin focuses on the desired performance of teachers (not to the inability of students in general).

6. Method

The method used is the method mix (mixed method) model of Embedded Design. This method combines qualitative and quantitative methods together. In this model, there are methods of primary and secondary methods. Researchers chose quantitative methods as the primary method. And as a secondary method, researchers used qualitative data obtained from instruments of observation and interviews, in order to describe the learning process of students' motivation to learn.

The study involved two samples of equivalent grade categories, namely, the experimental class and control class. The sample classes are formed using an existing class. Both the experimental class and the control class were not chosen at random (Sugiyono, 2015:118). In the experimental group was given treatment teacher comments on the results of homework (PR) students, while the control class is not given treatment teacher comments on the results of homework (PR) students.

The design of this study using nonequivalent control group design (Ruseffendi, 2005:52) the following:

class Experiment : _ _ _ O _ _ _ X _ _ _ O
classroom Control : O O

by:

X = Giving teacher comments on the results of homework (PR) students

O = Pretest / posttest

7. Population and Sample

The population in this study were all students of SDN Dipawangi District of Cianjur of Cianjur Regency. Based on the understanding of researchers, students at this school have problems in problem-solving ability and motivation to learn. The samples in this research were two samples taken at random from the population. One class of samples taken serve as the experimental group, while the other class as the control class. Randomized class is a class V.

The test instrument used in this study is a test instrument and nontes. The test instrument consisted of five questions that have been tested explanation that has the validity, reliability, difficulty index, distinguishing as follows:

| Number | Validity | Reliability | IK | DP |
|--------|----------|-------------|----------|--------|
| 1 | moderate | High | Easy | Well |
| 2 | moderate | | moderate | Enough |
| 3 | High | | Easy | Well |
| 4 | moderate | | moderate | Well |
| 5 | moderate | | moderate | Enough |

And the non-test instruments in the form of pieces of observation, learning motivation questionnaire and interview sheet.

8. Results and Discussion

Based on analysis of mathematical problem solving ability test, the value of significance (2-tailed) was 0,311. Because Sig. (2-tailed) $> \alpha$, then H_0 is accepted. So that means an increase in the abi-pared with students' mathematical problem solving treatment given teacher commenting on the results of homework (PR) is no better than students who were not given the treatment, in terms of the whole student.

Based on the results of questionnaire data calculation motivation to learn through SMI method (Method of Successive Interval) values obtained significance (2-tailed) was 0,287. Because Sig. (2-tailed) $> \alpha$, then H_0 is accepted. This means that the average final grade students' learning motivation experimental and control group did not differ significantly. It can be concluded, given the treatment of student motivation teacher commenting on the results of homework (PR) is no better than students who are not given such treatment.

Through observation and interviews, researchers discovered facts on the ground that that provision of teacher comments on the results of PR can increase students' motivation. This is in accordance with what was presented by Orsmond (Muir, 2006:26), that motivation can be generated from the feedback of written comments provided by the teacher.

But there are obstacles when mela-kukan treatment to provide written comments on the results of PR student, that teacher must provide additional time to write comments in the form of a correction, a word of praise or encouragement at every PR students. Moreover, if the teacher is assigned to the class of 40 students as the number of students in primary schools in general.

Based on the analysis on the correlation of test data that has been done, it is stated that there is no significant correlation between the abi-pared with mathematical problem solving and motivation of students. It bertenta-ngan with research results obtained Callard (2009:1), that if the student has the ability pemeca-han that will either lead to a high learning motivation.

9. Conclusion

Based on the results of data processing and the findings obtained in this study, obtained some conclusions as follows:

- Mathematical problem solving ability of students treated the provision of teacher comments on homework better results than students who did not receive such treatment.
- No difference-tan peningka mathematical problem solving ability significant, between students who received treatment commenting on the results of PR teachers and students who did not receive such treatment.
- Student motivation treated teachers commenting on the results of PR better than students who did not receive such treatment.
- There is no positive correlation between mathematical problem solving ability of students with student motivation.

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