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Improving Mathematical Problem-Solving Skills in Slow Learner Students Through Confidence Worksheet Ethno Edutainment

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Abstract. The purpose of this study was to determine the increase in the mathematical problem-solving ability of slow learner students through the application of Confidence Worksheet Ethno Edutainment. This study uses a quantitative approach using a one-group pretest-posttest design. In this study, the sampling technique was carried out by purposive sampling technique. The sample in this study was a slow learner class IV student who had previously been tested for psychology. Data collection techniques using test and non-test techniques. The data analysis technique uses gain normality. The results showed that through the application of Confidence Worksheet Ethno Edutainment, the problem-solving ability of slow learner students increased.

INTRODUCTION

Mathematics is a difficult and boring subject for students because it involves many formulas [1]. mathematics is often considered by students as one of the most difficult subjects. Supriadi stated that mathematics is still considered one of the most difficult subjects, so it is the least favorite subject [2]. Smith states that negative things appear in students when learning mathematics because they feel anxious [3]. Low mathematics learning outcomes are not caused by difficult mathematics but are caused by several factors, namely only the students themselves, teachers, learning approaches, and the learning environment that are interconnected with each other [4]. One of the students who often have difficulty understanding mathematics is a slow learner.

Slow learner students are one of the students belonging to children with special needs. Triani revealed that slow learners are children who have a low achievement or slightly below the average of children in general, in one or all academic areas [5]. Academically slow students are usually identified by the scores they achieve on intelligence tests, with IQs between 70-89 [6]. Slow learner students struggle to cope with academic demands in the classroom because slow learner students are normal students who have a problem that is not at all interested in learning under the learning system used [7].

In some cases, slow learners experience barriers or delays in thinking and responding to social stimuli and adaptations, but they are still much better than mentally retarded students, slower than normal students, and they take longer and more time to complete tasks. academic and non-academic, and therefore require special education services. Slow learner students are students who often have difficulty in learning mathematics. This causes slow learner students not to be confident, causing low learning achievement.

The results of observations of several elementary schools in Kudus Regency found that slow-learner students experienced a crisis of confidence in receiving lessons at school. The influencing factors are acts of discrimination by

teachers, bullying by classmates, the unavailability of special teaching materials for slow learner students, and the available teaching materials that do not have local wisdom and wisdom in the surrounding environment. These factors lead to low problem-solving skills in slow learner students' material which causes a crisis of confidence. This self-confidence crisis will affect the problem-solving ability of students who are slow learners.

Problem-solving contains four steps of completion, namely understanding the problem, planning the problem, solving the problem according to the plan, and re-checking all the steps taken. One stage to the next stage in problem-solving supports each other to produce problem-solving contained in the problem. Students play a role in understanding each step in problem-solving so that the thinking process goes well. In the learning process, a mindset is needed that produces solutions to problems.

The process of solving mathematical problems is different from the process of solving mathematical problems. If a mathematical problem can be immediately found a way to solve, then the problem is classified as a routine problem and is not a problem. Because solving problems for students can mean the process of accepting challenges, as Hudoyo said [8].

Indicators of mathematical problem-solving ability in this study are applying strategies to solve problems outside or within mathematics; solving mathematical models and real problems; explaining and interpreting results; identifying elements that are known, asked, and the adequacy of elements; creating mathematical models. Problem-solving ability in this study is an activity to understand the problem; activities to plan or design problem-solving strategies; activities carrying out calculations and activities to re-examine the correctness of the results or solutions. Kim mentions that problem-solving skills can help students in everyday life [9]. Thus, slow learner students need to develop their problem-solving skills to improve their problem-solving abilities. Human intelligence in the ability to solve problems is proven by finding connections to existing problems and adapting and combining them in several theories to find novelty or conclusions [10][11]. So, the level of intelligence can be used as a parameter and the standard is known as an assessment.

Students need to develop their learning abilities [12]. Arditi mentions that the development of student character will have an impact on students' problem-solving abilities. Therefore, there is a need for learning innovation through the application of ethno edutainment confidence worksheets that can invite slow learner students to fun learning by utilizing local wisdom [13]. The confidence worksheet makes it easier for slow learner students to understand where the content contains positive activities accompanied by a summary of the material and practice questions in detail and coherently so that slow learner students become more confident. In the aspect of self-confidence, it is necessary to get attention so that it can help slow students increase their confidence. Self-confidence is an important aspect of attitude to be developed in students [14][15][16].

One way to help slow learner students improve their problem-solving skills is through Confidence Ethno edutainment worksheets. The confidence worksheet used is based on ethno-edutainment. Ethno comes from the word ethnic which means related to local culture that exists in society which is still general. Wahyuni Explains that the word ethno refers to a socio-cultural context and is a kind of language, jargon, code of behavior, myths, and symbols [17]. Saepudin mentions that edutainment comes from the words education and entertainment [18]. Education means education, while entertainment means entertainment. So, in terms of language, edutainment is education that aims to entertain or make learning fun. This means that ethno-edutainment learning is learning about local culture that is packed with fun learning. The purpose of this study was to determine the increase in the mathematical problem-solving ability of slow learner students through the application of Confidence Worksheet Ethno Edutainment.

METHOD

The research approach used is quantitative. A quantitative approach is used to test theories, build facts, show relationships between variables, provide statistical descriptions, and estimate and predict results. The research design carried out in this study was one group pretest and posttest. Previously, students were given a psychological test to determine the type of students who were classified as slow learners. Then, slow learner students were given a pretest before the treatment was given. After being given treatment, the slow learner is also given a final test (posttest). The research location is SD 4 Dersalam. The population of this research is slow-learner students at SD 4 Dersalam. In this study, the sampling technique was carried out by purposive sampling technique, namely by selecting one class according to a particular purpose. Class IV slow-learner students were used as research samples because the characteristics of fourth-grade students tend to like learning with game elements and already have knowledge of local culture.

The instrument used in this research is a test instrument. The test instrument is used to determine the problem-solving ability of slow learner students by applying the ethno-edutainment confidence worksheet. The data collection technique used a problem-solving ability test instrument in the form of questions for slow learner students. The data analysis technique is used to test the problem-solving ability of slow learner students by using normalized gain. The normalized gain test was conducted to determine the extent to which the problem-solving ability of slow-learner students was increased before and after learning. The increase in problem-solving ability can be calculated using the normalized gain formula $\langle g \rangle$. The formula for normalized gain $\langle g \rangle$ is as follows [19] :

$$\langle g \rangle = \frac{S_{post} - S_{pretest}}{S_{max} - S_{pretest}} \times 100\%$$

Keterangan :

Spost = Postest score

Spre = Pretest score

Smax = Maximum score (100)

Furthermore, the value of normalized gain $\langle g \rangle$ obtained is translated according to the criteria for obtaining normalized gain $\langle g \rangle$ as presented in Table 1 [19] as follows.

TABLE 1. Normalized gain acquisition criteria $\langle g \rangle$ for mathematical problem-solving ability.

Normalized gain $\langle g \rangle$	Criteria
$\langle g \rangle < 0,3$	Low
$0,3 \leq \langle g \rangle < 0,7$	Middle
$\langle g \rangle \geq 0,7$	High

This criterion is used to find out how much the problem-solving ability of slow-learner students increases. This criterion can also be used to determine the extent of improvement individually or as a group.

RESULTS AND DISCUSSION

The results of observations show that there are still many students who have difficulty understanding concepts, especially in science and mathematics content [20]. Revealed that slow learners are children who have low or slightly below-average mathematical problem-solving abilities than children in general, in one or all academic areas [5]. Slow learner students tend to accept bullying. Bullying can occur anywhere, including at school. Bullying in schools can be mainly happened among students or between students and teachers [21]. Academically slow learners are usually identified by the scores they achieve on intelligence tests, with an IQ between 70-89 [6]. In some cases, slow learner students experience obstacles or delays in thinking and responding to social stimuli and adaptations, but they are still much better than those with mental retardation, slower than normal students, and they take longer and repeatedly to complete tasks. academic and non-academic tasks, and therefore require special educational services. Hadi said Slow learner students while in class need longer study time than their peers [22]. The intelligence of slow learner students is indeed below average, but they are not incapable students, they need a hard struggle to understand the material. Slow learners while in class need longer study time than others [23][24]. Other studies have shown that learning delays are caused by gen [25][26][27]. The level of intelligence of children in primary school is not only the result of genetic factors but also environmental factors, school sizes, level of education, and parents' economics [28].

The slowness of student learning can not only be determined from the level of intelligence but also based on the level of the child's ability to absorb learning. According to research, the characteristics of slow learner students' visual problems are that students are more fluent in receiving stimuli in the form of visuals, limitations in understanding color, size, and shape and limitations in remembering limited writing skills, and physical limitations that have an impact on body pain can hinder the learning process [29]. In addition, the learning motivation of slow learner students in elementary schools is also influential, therefore teachers also need to provide special assistance to provide learning services for slow students so that the development slow learner students develop well based on their social environment [25][30][31]. The language expert gave inputs such as adjusting the illustration to the material, fixing the front cover, using effective sentences avoiding double-meaning words, and using simple sentences [32].

By applying appropriate learning models, slow learner students are encouraged to be motivated and appear confident in discussion groups so that learning mathematics that was initially saturated becomes fun and has a positive impact on the results of student evaluations at each stage [33].

The score of the mathematical problem-solving ability of the slow learner students in this study was obtained at the beginning and end of the learning process by using test instruments. The mathematical problem-solving ability scores of slow learner students before and after the application of the ethno-edutainment confidence worksheet are presented in Table 2.

TABLE 2. Recapitulation of mathematical problem-solving ability scores for slow learners before and after learning.

Component	Mathematical Problem-Solving Ability	
	Pretest	Posttest
Average	24,3	61,4
Max Score	50	90
Min Score	5	20

The score of slow learner students' mathematical problem-solving ability after learning the application of confidence worksheet ethno edutainment is generally higher than the score before learning. This can be seen in the average score of slow learner students' mathematical problem-solving abilities in Mathematics subjects after learning the average reaches 61.4 and before learning reaches 24.3. The score was then analyzed statistically using the normalized gain test to find out how much the increase in the score of the slow learner students' mathematical problem-solving abilities was before and after learning.

The confidence ethno-edutainment worksheet contains interesting activities related to local wisdom or excellence. Confidence ethno-edutainment worksheets can also help increase the self-confidence of slow learners. This is because in the provision of material, there are steps to find solutions that can foster enthusiasm to study the material. It mentions that learning done step by step will make it easier for slow learner students to understand [12]. Also mention that worksheets can help students improve their abilities [34][35][36][37]. Through this experience, students can understand the concepts that they learn and connect them to the previous lesson concepts [12]. While through the use of modules with the theme concept, the student can be more active in the learning process as well as they have a better understanding of the material because it is associated with daily life. In the worksheet, students enter confident content according to self-confidence indicators. Then the questions are arranged gradually to adjust the thinking process of slow-learner students. The student worksheets also use ethno content to introduce cultural material to slow learner students. because ethno content is content that is close to slow learner students. so that it will help students understand of the material.

The results of calculations for increasing the mathematical problem-solving ability of slow learner students using the normalized gain test can be seen in Table 3.

TABLE 3. Results of increasing slow learner students' mathematical problem-solving ability.

Criteria	Mathematical Problem-Solving Ability (%)
Low	42,86 %
Medium	28,57 %
High	28,57 %

Based on Table 3, it can be seen that the results of increasing mathematical problem-solving abilities in Mathematics in slow learner students with a low level of improvement of 42.86%, a medium of 28.57%, and a high of 28.57%. The results of the normalized gain $\langle g \rangle$ test for each student can be seen in the appendix. Classically, the normalized gain value $\langle g \rangle$ is 43% or 0.43, which means that the interpretation of increasing the mathematical problem-solving ability of slow learner students is in the medium category.

The results of research on mathematical problem-solving abilities showed that the increase was in the medium category. Although there were slow-learner students who experienced low improvement, only 42.86% were in the middle and high categories. Good mathematical problem-solving skills can affect a person's self-confidence.

CONCLUSION

Based on the analysis using normalized gain $\langle g \rangle$, there was an increase in the mathematical problem-solving ability of slow learner students with a low level of improvement of 42.86%, medium of 28.57%, and high of 28.57%. Classically, the normalized gain value $\langle g \rangle$ is 43% or 43, which means that the interpretation of increasing the mathematical problem-solving ability of slow learner students is in the medium category.

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