

EVALUATION OF STUDENT MATHEMATICS LEARNING IN CLASS 2 OPEN-ENDED QUESTIONS AT MIN 2 PALEMBANG

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Abstract

Evaluation is a measuring tool to determine how deep students' understanding is in the learning process that has been implemented. Mathematics is a subject that is synonymous with numbers and is universal. In a mathematics lesson, sometimes students can answer one problem with two ways of solving the exact result or more called open-ended. Open-ended is a way to solve more than one problem. This study aims to evaluate the extent of students' knowledge in solving Open Ended Problems in mathematics. This research uses qualitative research that uses descriptive methods and case study approaches. The subjects in this study were grade IIA students at Madrasah Ibtidaiyah Negeri 2 Palembang. This study used data collection techniques in the form of essay question form tests. Based on the results of data analysis, it can be seen that grade II C students can analyze, evaluate, and think creatively and critically in solving open-ended problems. These results show that learning mathematics through open-ended can allow students to answer the presented questions with different solutions.

Keywords: Evaluation, Mathematics, Open Ended, Achievement, Students

Abstrak

Evaluasi merupakan alat ukur guna mengetahui sudah sedalam mana pemahaman siswa dalam proses pembelajaran yang telah dilaksanakan. Matematika merupakan suatu mata pelajaran yang identik dengan angka-angka dan bersifat universal. Pada suatu pembelajaran matematika terkadang siswa bisa menjawab satu soal dengan dua cara penyelesaian yang sama hasilnya atau lebih yang disebut dengan Open Ended. Open Ended merupakan cara untuk menyelesaikan suatu masalah lebih dari satu penyelesaian. Tujuan penelitian ini mengevaluasi sejauh mana pengetahuan siswa dalam menyelesaikan soal Open Ended Problem pada matematika. Penelitian ini menggunakan penelitian berjenis kualitatif yang menggunakan metode deskriptif serta pendekatan studi kasus. Subyek pada penelitian ini yaitu siswa kelas IIA di Madrasah Ibtidaiyah Negeri 2 Palembang. Penelitian ini menggunakan teknik pengumpulan data berupa tes bentuk soal essay. Berdasarkan hasil analisis data, terlihat bahwa siswa kelas II C mampu menganalisis, mengevaluasi, berpikir kreatif dan kritis dalam menyelesaikan soal Open Ended. Hasil tersebut menunjukkan bahwa pembelajaran matematika melalui Open Ended dapat memberikan kebebasan kepada siswa agar dapat menjawab soal yang disajikan serta menjawab soal dengan penyelesaian yang berbeda-beda.

Kata kunci: Evaluasi, Matematika, Open Ended, Pencapaian, Peserta Didik

INTRODUCTION

The narrow sense of evaluation comes from English, namely the word evaluation, in Arabic, namely "al-Taqdir," and in Indonesian, namely assessment. Evaluation means a set of activities carried out by each profession so that various information is known to improve everything done within a certain period. Evaluation is the value for something (Dacholfany et al., 2023)). Evaluation is an action or process to determine the value of student learning outcomes. Evaluation is grouped into educational aspects, and then an evaluation can be said to be an action or an activity to determine the value of something within the scope everything related to something that happens in the educational aspect). So, educational evaluation is a series of activities and a process in determining the value of education so that student learning results and quality can be known.

Mathematics is one of the subjects in schools, both at the elementary and university levels. With mathematics, students can study and get phenomena that occur or are observed (Bagus, 2018). Mathematics has its character: (1) it has something to study, deeds, operations, concepts, and principles. (2) Emphasis on the agreement, both symbols and terms or ground rules. (axiom) (3) his mindset is deductive; (4) be consistent in its system; (5) have a symbol that is void of meaning; and (6) pay attention to the universe of speech. Nadia et al., (2017) argue that the implementation of mathematics teaching and learning in elementary schools should not only require students to answer questions correctly but also encourage students to come up with new ideas. In mathematics education, open-ended problems are generally non-routine problems open to interpreting situations that describe and receive several correct answers and various problem-solving strategies (Chen et al., 2022). This Open-Ended has been widely accepted because it positively impacts students to improve their ability to think creatively and mathematically (Abulhul, 2021). The open-ended learning model has a positive influence on improving students' mathematical problem-solving abilities (Khalid et al., 2020).

In the learning process in mathematics subjects, students have abstract characteristics. Many students feel that this learning is complex in this mathematics subject, so they have difficulty carrying it out. Teachers must make mathematics learning fun and use varied methods so that students can easily understand this numerical mathematical material so that later students can successfully carry out this mathematics learning (Allen & Seaman, 2010). Through this, a teacher should evaluate every lesson he does to find out the student's success in the learning that has been carried out. Implementation in the learning process cannot be separated from evaluation. Evaluation is collecting data to ensure the extent to which educational goals have been implemented or achieved. The world of education requires an evaluation process. Evaluation is a need that cannot be eliminated from all institutions, especially educational institutions. This evaluation process can determine the development and progress of an educational program (Evcı, 2022). In educational institutions, Stufflebean divides the education system into four parts: Evaluation Context, Evaluation Input, Evaluation Process, and Evaluation Product (Alkin & Christie, 2023).

The learning process uses a lesson plan consisting of introduction, core, and closing activities. The initial activity is the physical and psychological preparation of students carried out by the teacher to follow the learning process, provide motivation, ask questions about knowledge about the material to be learned, explain the purpose, and convey the scope of the material (Tamanampo et al., 2017). Mathematics is a universal science. Mathematics plays a vital role in all aspects of life. The hallmark of this mathematics is numbers and symbols (Komala & Afrida, 2020). To succeed in mathematics, one needs support from all parties and aspects of school. Teachers must have good competence in evaluating mathematics learning. They must have insight into how to conduct evaluations correctly and according to the needs of learners (Farhan et al., 2019).

Open-ended is a learning approach whose initial application begins by giving a problem to students. The problems given to students are open problems that provide opportunities for students to bring out their creative ideas and provide space for creativity in students facing problems (Abulhul, 2021). Based on this understanding, open-ended is an approach with one problem and many answers in how to solve it or has various ways of solving because a problem is open. Implementing open-ended in schools aims to enable students to find many ways out of a problem. This approach is valuable for mathematics and beneficial for students' daily lives, and students can get used to thinking using good reason.

METHOD

The research method used in this research is qualitative research. According to Juniatmoko, (2019), the qualitative research method is based on philosophy, used to examine in the scientific context (experiment). Here, the researcher as an instrument emphasizes the meaning of data collection techniques and qualitative analysis. The primary sources of qualitative descriptive research are words and actions. Besides that, there is also additional data in the form of documents, archives, and so on. All things behavior and interaction objects in this study must be adjusted so that the data collected will affect the final result of the study. This study produces descriptive data in the form of direct information from the behavior of people who have been observed. The place of this research was carried out in the environment of Madrasah Ibtidaiyah Negeri 2 Palembang. The population and sample observed were students of grade II C. Data collection techniques are carried out by written tests in the form of written questions, through written tests to respondents, namely by a written test process to ask several questions in the hope of getting the expected research results from the answers given by respondents. The second analysis of this document is used to make it easier for the author to describe as a whole the various opinions of the respondents.

RESULTS AND DISCUSSION

The subjects of this study are all students of grade II MIN 2 Palembang in grade II C. The evaluation is carried out by providing questions that direct students to think critically

because the questions are open-ended and the questions require identifying problems, clarifying problems, solving problems from the results of the analysis, and evaluating to conclude the problems found in solving the problems given by the teacher on the sheet Evaluate students by giving five essay questions. Then take data for the instrument on the open-ended test questions given to grade II MIN 2 Palembang students in grade II C. Based on data obtained after examining students' answers from the Open-Ended written test, researchers found good abilities in solving the questions given from the assessment that has been carried out. Almost all students answered the open-ended questions ideally in class II C. Researchers can conclude from the examination that has been carried out that students in class II C have high thinking skills in solving open-ended problems so that the learning outcomes of students in this mathematics subject are improving. Here's one sample of students who answered the open-ended question perfectly.

Nama : M. Rifa wbaDillah
 Kelas : 2.C
 Asal Sekolah : min 2 kota Palembang
 Petunjuk :
 Kerjakan Soal Dibawah Ini Dengan Menggunakan 2 Cara Penyelesaian!
SOAL
 1. Bilangan berapa yang ketika dijumlahkan hasilnya 10?
 2. Ada tomat
 Bilangan berapa yang ketika dikurangkan hasilnya 5?
 3. Ayah kerja jam 2 dan pulang kerja jam 4. Berapa selisih antara jam 2 dan jam 4?
 4. Ibu membeli apel 4 kantong buah apel, setiap kantong memiliki berat 2kg, berapakah jumlah berat apel bila di gabungkan?
 5. Nayla memiliki 20 buah manga, akan di bagi kepada 4 temannya, berapa jumlah manga yang diperoleh masing-masing teman nayla?

Jawaban
 1. $5 + 5 = 10$
 $1 + 9 = 10$
 2. $10 - 5 = 5$
 $15 - 10 = 5$
 3. $4 - 2 = 2$
 $8 - 6 = 2$
 4. $4 \times 2 = 8$
 $8 \times 1 = 8$
 $5 \times 2 = 10$
 $5 : 1 = 5$
 -GOOD LUCK~
 B = 5

Figure 1. Questions and Answers of One of Class II C Students

In the results of the work carried out by one of the students in class II C above. They have understood how to solve the problem by using two ways of solving so that both answers are correct. Based on the description above, the research and analysis results show a good and significant influence of using open-ended questions on the mathematics learning outcomes of grade II C MIN 2 Palembang students. Using open-ended questions is an action and an excellent way to evaluate students' poor mathematics learning. Students become more interested in solving the questions given. Based on research and observations, using open-ended questions can make it easier for students to answer the questions given because they are open questions that give students freedom in answering the questions given or can answer questions with various types of solving methods. This can train students to think creatively and critically in solving existing problems.

CONCLUSION

Open-ended is a learning approach whose initial application begins with giving a problem to students. The problems given to students are open problems that provide opportunities for students to bring out their creative ideas and provide space for creativity in students facing problems. Based on data obtained after examining students' answers from the Open-Ended written test, researchers found good abilities in solving the questions given

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