ABSTRAK

Mega Ayu Hariyantini. *Analisis Kesalahan Siswa dalam Menyelesaikan Soal Matematika Berdasarkan Kriteria Newman Pada Siswa Kelas VIII MTs Negeri 1 Pacitan.* Skripsi. Pacitan: STKIP PGRI Pacitan, 2022.

Penelitian ini bertujuan untuk mengetahui jenis-jenis kesalahan yang dilakukan oleh siswa kelas VIII MTs Negeri 1 Pacitan dengan menggunakan prosedur Newman, dan faktor penyebab kesalahan-kesalahan tersebut terjadi. Jenis penelitian merupakan penelitian kualitatif deskriptif.

Metode pengumpulan data dilakukan melalui tes dan wawancara. Teknik analisis data menggunakan tahapan Miles dan Huberman. Subjek dalam penelitian ini adalah siswa kelas VIII MTs Negeri 1 Pacitan berjumlah 32 siswa yang dipilih menggunakan teknik *purposive sampling.* Setiap hasil pekerjaan subjek terpilih dianalisis lebih lanjut untuk mendeskripsikan jenis-jenis kesalahan menggunakan metode *Newman Error Analyst* (NEA). Kemudian dilakukan wawancara untuk mendeskripsikan faktor-faktor yang menyebabkan subjek melakukan kesalahan.

Dari hasil analisis data diperoleh kesimpulan bahwa terdapat 4 jenis kesalahan dari 5 kriteria kesalahan pada metode NEA. Adapun jenis kesalahan yang dilakukan adalah (1) *comprehension errors* terjadi karena subjek tidak menuliskan informasi penting pada soal secara lengkap (2) *transformation errors* terjadi karena subjek tidak dapat mengubah soal ke model matematika dengan tepat, subjek salah menuliskan rumus, subjek salah menentukan urutan rumus yang digunakan untuk penyelesaian soal (3) *process skill errors* terjadi karena pemahaman pada operasi hitung (menghitung luas dan volume), subjek tidak menuliskan satuan, salah pemahaman terhadap konsep mengubah satuan, subjek salah dalam menuliskan satuan. (4) *encoding errors* terjadi karena subjek tidak menuliskan kesimpulan jawaban akhir, dan subjek menuliskan kalimat kesimpulan jawaban akhir tetapi tidak lengkap. Faktor-faktor yang menyebabkan siswa melakukan kesalahan adalah (1) kesalahan memahami soal terjadi karena siswa terburu-buru dalam menjawab soal, ingin pekerjaannya cepat selesai, subjek kurang fokus, subjek lupa tidak menuliskan jawaban secara lengkap. (2) kesalahan mentransformasi, terjadi karena subjek merasa waktu yang diberikan masih kuran, kurang begitu paham rumus apa yang digunakan untuk menyelesaikan soal, tidak terbiasa dengan soal yang penyelesaiannya panjang. (3) kesalahan keterampilan memproses, disebabkan karena subjek masih ragu dan bingung saat akan memasukkan angka-angka ke dalam rumus, merasa waktu yang diberikan kurang, kurang teliti pada operasi hitung, belum benar-benar paham konsep satuan dan operasi hitung. (4) Kesalahan penulisan jawaban akhir disebabkan karena subjek tidak menyelesaikan perhitungan sebelumnya sehingga tidak menuliskan jawaban akhir, terburu-buru ingin pekerjaannya cepat selesai dan tidak memeriksa kembali jawaban.

Kata kunci: Analisis Kesalahan, Bangun Ruang Sisi Datar, Prosedur Newman

ABSTRACT

Mega Ayu Hariyantini. *Analysis Student Errors in Solving Mathematics Problems Based on Newman's Criteria for Class VIII Students at MTs Negeri 1 Pacitan.* Thesis. Pacitan: STKIP PGRI Pacitan, 2022.

This study aimed to determine the types of errors made by class VIII MTs Negeri 1 Pacitan students using the Newman procedure, and the factors that cause these errors to occur. This type of research was a descriptive qualitative research.

The method of data collection was done through tests and interviews. The data analysis technique used Miles and Huberman stages. The subjects in this study were students of class VIII MTs Negeri 1 Pacitan totaling 32 students who were selected using purposive sampling technique. Each selected subject's work was further analyzed to describe the types of errors using the Newman Error Analyst (NEA). Then interviews were conducted to describe the factors that caused the subject to make mistakes.

From the results of data analysis, it was concluded that there were 4 types of errors out of 5 error criteria in the NEA method. The types of errors made were (1) comprehension errors occurred because the subject did not write down important information in the question completely (2) transformation errors occurred because the subject could not convert the question to a mathematical model correctly, the subject wrote the formula incorrectly, the subject incorrectly determined the order of the formula used for problem solving (3) process skill errors occurred due to understanding of arithmetic operations (calculation of area and volume), the subject did not write down the units, misunderstood the concept of changing units, the subject was wrong in writing units. (4) encoding errors occurred because the subject did not write the conclusion of the final answer, and the subject wrote the conclusion sentence but the final answer was incomplete. The factors that cause students to make mistakes were (1) comprehension errors, because students were in a hurry to answer questions, wanted their work to be completed quickly, the subject lacks focus, the subject forgot not to write down the complete answer. (2) transformation errors, because the subject felt that the time given was still not enough, did not really understand what formula was used to solve the problem, was not familiar with questions with long solutions. (3) process skill errors, because the subject was still hesitant and confused when entering numbers into the formula, felt that the time given was insufficient, was not careful with arithmetic operations, did not really understand the concept of units and arithmetic operations. (4) encoding errors were caused because the subject did not complete the previous calculation so that he did not write down the final answer, was in a hurry to finish his work quickly and did not re-check the answer.

Keywords: *Error Analysis, Geometry Flat Side, Newman's Procedure*