ANALISIS KEMAMPUAN VISUALISASI MATEMATIS SISWA SMP PADA SOAL CERITA GEOMETRI DITINJAU BERDASARKAN GAYA BELAJAR

Diajukan untuk Memenuhi Sebagian dari Syarat
Memperoleh Gelar Magister Pendidikan Matematika

TESIS

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HALAMAN PENGESAHAN

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ABSTRAK

Rahmi Keumalasari (2019). Analisis Kemampuan Visualisasi Matematis Siswa SMP pada Soal Cerita Geometri Ditinjau Berdasarkan gaya Belajar

Kemampuan visualisasi matematis beperan penting dalam mengembangkan cara siswa berpikir, memahami matematika dan penghubung pada transisi pemikiran konkret menjadi abstrak. Penelitian ini bertujuan untuk menganalisis bagaimana kemampuan visualisasi matematis siswa SMP dan menyelidiki faktor-faktor apa saja yang mempengaruhi proses visualisasi matematis mereka pada soal cerita geometri ditinjau berdasarkan gaya belajar visual, auditori, dan kinestetik. Proses visualisasi matematis pada penelitian ini dianalisis berdasarkan aspek *understanding*, *connecting*, *constructing*, *using*, and *encoding*. Penelitian ini melibatkan 29 siswa kelas VIII pada salah satu SMP di Bandung tahun ajaran 2018/2019. Proses pengumpulan data dilakukan melalui pemberian instrumen *Learning Style Questionnaire*, soal tes kemampuan visualisasi matematis, dan wawancara. Data yang diperoleh dianalisis secara deskriptif dengan pendekatan kualitatif. Berdasarkan hasil penelitian diperoleh bahwa siswa dengan gaya belajar visual pada penelitian ini adalah siswa yang memiliki kemampuan paling tinggi dalam proses visualisasi matematis. Secara umum siswa visual telah memiliki kemampuan visualisasi matematis pada seluruh proses *understanding, connecting, constructing, using,* dan *encoding* dengan baik dan mendetail. Hasil jawaban siswa auditori menempati urutan kedua dalam proses visualisasi matematis pada penelitian ini. Secara garis besar siswa auditori juga memiliki kemampuan visualisasi matematis pada seluruh proses *understanding*, *connecting*, *constructing*, *using,* dan *encoding* meskipun rincian jawaban yang dituliskan tidak selengkap siswa visual. Siswa kinestetik adalah siswa dengan kemampuan yang paling rendah dalam proses visualisasi matematis pada penelitian ini dan rata-rata hanya dapat melalui proses visualisasi matematis pada tahapan *understanding,* dan *connecting* saja. Penelitian ini diharapkan dapat menawarkan rekomendasi berbasis bukti untuk praktik pembelajaran matematika yang efektif di sekolah.

Kata-kata kunci : Visualisasi matematis, soal cerita geometri, gaya belajar, visual, auditori, kinestetik

ABSTRACT

Rahmi Keumalasari (2019). Analysis of Mathematical Visualization Ability of Junior High School Students in Geometry Word Problem Viewed from Learning Style

Mathematical visualization has an essential role in developing the way students think, understand mathematics and as a link to the transition of concrete thinking to abstract. This research aims to analyze the mathematical visualization abilities of junior high school students and investigating any factors that influence their mathematical visualization process on geometry word problem based on visual, auditory, and kinesthetic learning style. Mathematical visualization process in this study was analyzed based on aspects of *understanding*, *connecting*, *constructing*, *using*, and *encoding*. This study involved 29 students of grade VIII in one of Junior High School in Bandung in the academic year 2018/2019. This was qualitative research where the data was collected through a Learning Style Questionnaire, mathematical visualization test in geometry word problem and interview. Based on the results, it was found that students with visual learning styles in this study were students who had the highest ability in the mathematical visualization process. In general, visual students have mathematical visualization skills in all processes of *understanding*, *connecting*, *constructing*, *using*, and *encoding* in a good and detailed manner. The results of auditory students' answers ranked second in the mathematical visualization process in this study. Generally auditory students also have mathematical visualization abilities throughout the processes of *understanding*, *connecting*, *constructing*, *using*, and *encoding* even though the detailed answers written are not as complete as visual students. Kinesthetic students were students with the lowest ability in the mathematical visualization process in this study and mostly can only go through a mathematical visualization process at the stages of *understanding*, and *connecting*. This research is expected to offer evidence-based recommendations for effective practice of mathematics learning in schools.

Keywords : The mathematical visualization, geometry word problem, learning style, visual, auditory, kinesthetic

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Halaman

DAFTAR TABEL

DAFTAR GAMBAR

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