

ABSTRAK

Ungzila Lely Mafruhah, *Efektivitas Pendekatan Game Based Learning (GBL) Berbantuan Media Phet Simulations Terhadap Kemampuan Numerasi Dalam Menyelesaikan Masalah Pecahan Pada Siswa SD*. Skripsi. Program Studi Pendidikan Guru Sekolah Dasar, Fakultas Keguruan dan Ilmu Pendidikan, Universitas PGRI Madiun, Pembimbing (I) Dr. Sardulo Gembong, M.Pd., (II) Dr. Lingga Nico Pradana, M.Pd.

Kemampuan numerasi merupakan kemampuan menggunakan angka, simbol, dan konsep matematika untuk menyelesaikan masalah dalam kehidupan sehari-hari. Kemampuan ini perlu ditingkatkan pada pembelajaran matematika sekolah dasar, khususnya materi pecahan. Penelitian ini bertujuan mengetahui efektivitas pendekatan GBL berbantuan media *Phet Simulations* terhadap kemampuan numerasi dalam menyelesaikan masalah pecahan pada siswa sekolah dasar. Penelitian menggunakan pendekatan kuantitatif dengan jenis *quasi experimental design* dan rancangan *pre-test post-test control design*. Populasi penelitian berjumlah 54 siswa kelas V SDN Gemarang, sedangkan sampel berjumlah 37 siswa yang dipilih menggunakan teknik *cluster random sampling*. Instrumen penelitian berupa tes pre-test dan post-test. Analisis data meliputi uji normalitas, uji keseimbangan, dan uji hipotesis. Hasil uji hipotesis menunjukkan nilai *p-value* sebesar 0,01 ($<0,05$). Dengan demikian, pendekatan GBL berbantuan media *Phet Simulations* efektif meningkatkan kemampuan numerasi dalam menyelesaikan masalah pecahan pada siswa sekolah dasar.

Kata Kunci : *Game Based Learning; Phet Simulations*; Kemampuan Numerasi

ABSTRACT

Ungzila Lely Mafruhah, The Effectiveness of *Game Based Learning* (GBL) Approach Assisted by *Phet Simulations* Media on Numeracy Ability in Solving Fraction Problems in Elementary School Students. Thesis. Elementary School Teacher Education Study Program, Faculty of Teacher Training and Education, Universitas PGRI Madiun, Supervisors (I) Dr. Sardulo Gembong, M.Pd., (II) Dr. Lingga Nico Pradana, M.Pd.

Numeracy ability is the ability to use numbers, symbols, and mathematical concepts to solve problems in everyday life. This ability needs to be improved in elementary school mathematics learning, especially fractions. This study aims to determine the effectiveness of the GBL approach assisted by Phet Simulations media on numeracy skills in solving fraction problems in elementary school students. The study used a quantitative approach with a quasi-experimental design and a pre-test post-test control design. The study population was 54 fifth-grade students of SDN Gemarang, while the sample was 37 students selected using a cluster random sampling technique. The research instruments were pre-test and post-test. Data analysis included normality tests, balance tests, and hypothesis tests. The results of the hypothesis test showed a p-value of 0.01 (<0.05). Thus, the GBL approach assisted by Phet Simulations media effectively improves numeracy skills in solving fraction problems in elementary school students.

Keywords: Game Based Learning; Phet Simulations; Numeracy Skills