PENGARUH MODEL PEMBELAJARAN *DISCOVERY LEARNING* BERBANTUAN *AUGMENTED REALITY* (AR) TERHADAP KEMAMPUAN BERPIKIR KRITIS, BERPIKIR KREATIF, DAN SIKAP PRODUKTIF MATEMATIS SISWA KELAS V SEKOLAH DASAR

DISERTASI

Diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar doktor pendidikan dasar

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Pengaruh Model Pembelajaran *Discovery Learning* Berbantuan *Augmented Reality* (AR) terhadap Kemampuan Berpikir Kritis, Berpikir Kreatif, dan Sikap Produktif Matematis Siswa Kelas V Sekolah Dasar

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ASBTRAK

Ady Akbar (2025). Pengaruh Model Pembelajaran Discovery Learning Berbantuan Augmented Reality (AR) terhadap Kemampuan Berpikir Kritis, Berpikir Kreatif, dan Sikap Produktif Matematis Siswa Kelas V Sekolah Dasar.

Penelitian ini bertujuan untuk menganalisis pengaruh pembelajaran *discovery learning* berbantuan teknologi AR terhadap kemampuan berpikir kritis, kemampuan berpikir kreatif, dan sikap produktif matematis. Kami menggunakan kerangka eksperimen semu dengan *pretest-posttest control group design* dan melibatkan 187 siswa dari tiga sekolah dasar di Kabupaten Gowa, Sulawesi Selatan. Kelas eksperimen dan kelas kontrol masing-masing diberikan pembelajaran materi volume dan luas permukaan kubus dan balok. Intervensi pada kelas eksperimen adalah pembelajaran *discovery learning* berbantuan teknologi AR dan kelas kontrol diajar melalui model pembelajaran konvensional. Instrumen penelitian ini terdiri dari instrumen tes kemampuan berpikir kritis matematis, tes kemampuan berpikir kreatif matematis, angket sikap produktif matematis, lembar observasi sikap produktif matematis, dan panduan wawancara siswa. Analisis data penelitian ini terdiri dari analisis data kuantitatif meliputi analisis data deskriptif dan analisis data inferensial, serta tahap kedua adalah analisis data kualitatif. Hasil penelitian menunjukkan bahwa capaian dan peningkatan kemampuan berpikir kritis dan sikap produktif matematis siswa yang diajar menggunakan pembelajaran *discovery learning* berbantuan AR lebih baik daripada siswa yang diajar melalui pembelajaran konvensional pada setiap level sekolah dan kemampuan awal matematika. Pada aspek berpikir kreatif, siswa yang mendapatkan pembelajaran *discovery learning* berbantuan AR menunjukkan kemampuan berpikir kreatif yang lebih baik dibandingkan dengan siswa yang mengikuti pembelajaran konvensional pada level sekolah baik dan sedang. Namun pada level sekolah kurang, tidak terdapat perbedaan kemampuan berpikir kreatif yang signifikan antara siswa yang mendapatkan pembelajaran *discovery learning* berbantuan AR dengan siswa yang mendapatkan pembelajaran konvensional pada setiap kategori kemampuan awal matematika (tinggi, sedang, rendah). Selanjutnya, interaksi antara model pembelajaran dengan level sekolah maupun kemampuan awal matematika, tidak memberikan pengaruh yang signifikan terhadap kemampuan berpikir kritis, berpikir kreatif, dan sikap produktif matematis. Secara keseluruhan, hasil penelitian menunjukkan bahwa penerapan pembelajaran discovery learning berbantuan AR dapat menjadi alternatif untuk mempromosikan kemampuan berpikir kritis, berpikir kreatif, dan sikap produktif matematis siswa khususnya pada siswa dengan kemampuan baik dan sedang.

Kata kunci: Augmented reality, Berpikir kritis, Berpikir kreatif, Discovery learning, Sikap produktif matematis.

ABSTRACT

Ady Akbar (2025). The Effect of Augmented Reality (AR)-Assisted Discovery Learning Model on Critical Thinking, Creative Thinking, and Mathematical Productive Attitudes of Fifth Grade Elementary School Students.

This study aims to analyze the influence of discovery learning assisted by AR technology on critical thinking skills, creative thinking skills, and mathematical productive attitudes. We used a quasi-experimental framework with a pre-test and post-test control group design and involved 187 students from three elementary schools in Gowa Regency, South Sulawesi. The experimental class and the control class were given material learning on the volume and surface area of the cube and cuboid, respectively. The intervention in the experimental class was discovery learning assisted by AR technology, and the control class was taught through a conventional learning model. This research instrument consists of a mathematical critical thinking ability test instrument, a mathematical creative thinking ability test, a mathematical productive attitude questionnaire, a mathematical productive attitude observation sheet, and a student interview guide. The data analysis of this research consists of quantitative data analysis, including descriptive data analysis and inferential data analysis, and the second stage is qualitative data analysis. The results showed that the achievement and improvement of critical thinking skills and mathematical productive attitudes of students taught using AR-assisted discovery learning were better than students taught through conventional learning at each school level and initial mathematics ability. Regarding creative thinking, students who received AR-assisted discovery learning showed better creative thinking skills compared to students who participated in conventional learning at the good and medium school levels. However, at the school level, there was no significant difference in creative thinking skills between students who received AR-assisted discovery learning and students who received conventional learning in each category of initial mathematics ability (high, medium, low). Furthermore, the interaction between the learning model and the school level and the initial ability in mathematics did not have a significant influence on critical thinking skills, creative thinking, and mathematical productive attitudes. Overall, the results of the study show that the application of AR-assisted discovery learning can be an alternative to promote students' critical thinking, creative thinking, and mathematical productive attitudes, especially in students with good and moderate abilities.

Keywords: Augmented reality, Discovery learning, Creative thinking, Critical thinking, Mathematical productive attitude.

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