

ABSTRAK

Q A, Angel Ardila Suci (2026), Pengembangan Media Gamifikasi *Board Monopoly* Berbasis *Project Based Learning* (PjBL) untuk Meningkatkan Pemahaman Konsep Matematika Siswa Sekolah Dasar. Tesis, Program Studi Teknologi Pendidikan, Program Pascasarjana, Universitas Pendidikan Ganesha.

Tesis ini telah disetujui dan diperiksa oleh Pembimbing I: Prof. Dr. Ni Nyoman Parwati, M.Pd. dan Pembimbing II: Prof. Dr. I Gde Wawan Sudatha, S.Pd., S.T., M.Pd.

Kata-kata kunci: gamifikasi, *Board Monopoly*, *Project Based Learning*, pemahaman konsep matematika, ADDIE.

Penelitian ini bertujuan untuk mengembangkan media gamifikasi *Board Monopoly* Polymath Space berbasis *Project Based Learning* (PjBL) yang valid, praktis, dan efektif untuk meningkatkan pemahaman konsep matematika siswa sekolah dasar. Penelitian ini merupakan penelitian dan pengembangan (*Research and Development*) menggunakan model ADDIE (*Analysis, Design, Development, Implementation, dan Evaluation*). Subjek penelitian adalah 25 siswa kelas V SDN Jatian 01 Jember. Instrumen penelitian meliputi lembar validasi ahli materi, ahli media, dan praktisi, angket kepraktisan menggunakan *User Experience Questionnaire* (UEQ), serta tes pemahaman konsep matematika berupa *pretest* dan *posttest* yang telah memenuhi persyaratan validitas dan reliabilitas. Analisis data dilakukan secara deskriptif kuantitatif dan inferensial menggunakan *paired sample t-test*, *Normalized Gain* (N-Gain), *effect size*, dan analisis ketuntasan belajar. Hasil penelitian menunjukkan bahwa: (1) media gamifikasi *Board Monopoly* Polymath Space berbasis *Project Based Learning* dinyatakan sangat valid berdasarkan penilaian ahli materi, ahli media, dan praktisi; (2) media memperoleh respons guru dan siswa pada kategori Good hingga Excellent, sehingga dinyatakan sangat praktis digunakan dalam pembelajaran; (3) terjadi peningkatan nilai rata-rata pemahaman konsep matematika siswa dari 62,30 pada *pretest* menjadi 82,20 pada *posttest*; (4) hasil *paired sample t-test* menunjukkan nilai signifikansi sebesar 0,000 ($<0,05$), sehingga terdapat peningkatan pemahaman konsep matematika yang signifikan setelah penggunaan media; (5) hasil analisis N-Gain sebesar 0,52 berada pada kategori sedang dan *effect size* sebesar 1,65 berada pada kategori besar (*large effect size*), yang menunjukkan bahwa media memberikan pengaruh yang kuat terhadap peningkatan pemahaman konsep matematika siswa; dan (6) persentase ketuntasan belajar mencapai 92%, sehingga media termasuk dalam kategori sangat efektif. Dengan demikian, media gamifikasi *Board Monopoly* Polymath Space berbasis *Project Based Learning* memenuhi kriteria valid, praktis, dan efektif sehingga layak digunakan sebagai media pembelajaran untuk meningkatkan pemahaman konsep matematika siswa sekolah dasar.

ABSTRACT

Q A, Angel Ardila Suci (2026), *Development of a Board Monopoly Gamification Media Based on Project-Based Learning (PjBL) to Improve Elementary School Students' Mathematical Conceptual Understanding*. Master's Thesis, Educational Technology Study Program, Postgraduate Program, Universitas Pendidikan Ganesha.

This thesis has been examined and approved by Supervisor I: Prof. Dr. Ni Nyoman Parwati, M.Pd. and Supervisor II: Prof. Dr. I Gde Wawan Sudatha, S.Pd., S.T., M.Pd.

Keywords: gamification, Board Monopoly, Project-Based Learning, mathematical conceptual understanding, ADDIE.

This study aimed to develop a Board Monopoly gamification media based on Project-Based Learning (PjBL) that is valid, practical, and effective in improving elementary school students' mathematical conceptual understanding. This study employed a Research and Development (R&D) approach using the ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. The subjects of this study were 25 fifth-grade students of SDN Jatian 01 Jember. The research instruments included validation sheets completed by material experts, media experts, and practitioners, a practicality questionnaire using the User Experience Questionnaire (UEQ), and mathematical conceptual understanding tests in the form of pre-tests and post-tests that had met the validity and reliability requirements. The data were analyzed using descriptive quantitative analysis, paired-sample t-test, Normalized Gain (N-Gain), effect size analysis, and learning mastery analysis. The findings revealed that: (1) the Board Monopoly gamification media based on Project-Based Learning was categorized as highly valid based on the assessments of material experts, media experts, and practitioners; (2) the media obtained teacher and student responses in the Good to Excellent categories, indicating that it was highly practical for classroom implementation; (3) the students' average score on mathematical conceptual understanding increased from 62.30 in the pre-test to 82.20 in the post-test; (4) the paired-sample t-test yielded a significance value of 0.000 ($p < 0.05$), indicating a statistically significant improvement in students' mathematical conceptual understanding after using the developed media; (5) the N-Gain score of 0.52 indicated a moderate improvement, while the effect size of 1.65 indicated a large effect, demonstrating that the media had a strong impact on improving students' mathematical conceptual understanding; and (6) the learning mastery level reached 92%, indicating that the media was highly effective. Therefore, the Board Monopoly gamification media based on Project-Based Learning met the criteria of validity, practicality, and effectiveness and is suitable for use as a learning medium to improve elementary school students' mathematical conceptual understanding.