

ABSTRAK

PENGEMBANGAN E-LKPD BERBASIS *DISCOVERY LEARNING* BERBANTUAN *SMART APPS CREATOR* UNTUK MENINGKATKAN PEMAHAMAN KONSEP MATEMATIKA PESERTA DIDIK KELAS V SEKOLAH DASAR

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Penelitian ini menjawab masalah pemahaman konsep matematika peserta didik Indonesia yang disoroti berdasarkan hasil PISA 2022 dan Asesmen Nasional 2024, dengan mengembangkan perangkat pembelajaran digital inovatif untuk peserta didik kelas V sekolah dasar yang berfokus pada materi bangun ruang kubus dan balok. Penelitian ini bertujuan untuk mengembangkan E-LKPD berbasis *Discovery Learning* berbantuan *Smart Apps Creator* (SAC) yang layak dan praktis, serta efektif dalam meningkatkan pemahaman konsep matematika peserta didik. Menggunakan metode *Research and Development* (R&D) dengan model ADDIE, penelitian ini melibatkan tiga ahli, praktisi guru, dan 40 peserta didik kelas V di SD Negeri 4 Metro Utara. Data dikumpulkan melalui lembar validasi ahli, angket respon pengguna, dan instrumen tes. Hasil penelitian menunjukkan kevalidan dari ahli materi sebesar 80%, hasil kevalidan dari ahli media sebesar 92,3%, dan hasil kevalidan dari ahli bahasa sebesar 87,5%; berdasarkan hasil tersebut, maka hasil yang diperoleh menunjukkan tingkat kevalidan sangat tinggi dengan kategori sangat layak. Selanjutnya, hasil kepraktisan dari guru sebesar 93,75% dan hasil kepraktisan dari peserta didik sebesar 91,13%; berdasarkan hasil tersebut, maka hasil yang diperoleh menunjukkan tingkat kepraktisan sangat tinggi dengan kategori sangat praktis. Selanjutnya, uji efektivitas menggunakan *independent sample t-test* menunjukkan perbedaan yang signifikan ($p < 0,001$) pada peningkatan pemahaman konsep ($N\text{-Gain}=0,69$, kategori sedang-tinggi). Temuan ini menyimpulkan bahwa E-LKPD berbasis *Discovery Learning* berbantuan SAC layak, praktis, dan efektif untuk meningkatkan pemahaman konsep peserta didik sekolah dasar.

Kata Kunci: E-LKPD, *Discovery Learning*, *Smart Apps Creator*, Pemahaman Konsep, Bangun Ruang Sederhana, Sekolah Dasar.

ABSTRACT

DEVELOPMENT OF A DISCOVERY LEARNING-BASED ELECTRONIC STUDENT WORKSHEET (E-LKPD) ASSISTED BY SMART APPS CREATOR TO ENHANCE THE MATHEMATICAL CONCEPT MASTERY AMONG FIFTH-GRADE PRIMARY SCHOOL STUDENTS

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This research addresses the problem of Indonesian students' mathematical conceptual understanding, highlighted by the 2022 PISA and 2024 National Assessment results, by developing an innovative digital learning tool for fifth-grade primary school students focusing on the 3D geometric shapes of cubes and cuboids. This study aims to develop a Discovery Learning-based Electronic Student Worksheet (E-LKPD) assisted by Smart Apps Creator (SAC) that is feasible, practical, and effective in enhancing students' mathematical conceptual understanding. Employing a Research and Development (R&D) method with the ADDIE model, this research involved three experts, a teacher practitioner, and 40 fifth-grade students at SD Negeri 4 Metro Utara. Data were collected through expert validation sheets, user response questionnaires, and test instruments. The research results demonstrated that the validity from the subject matter expert was 80%, from the media expert was 92.3%, and from the language expert was 87.5%; based on these results, the obtained outcomes indicate a very high level of validity, categorised as highly feasible. Furthermore, the practicality result from the teacher was 93.75%, and from the students was 91.13%; based on these results, the obtained outcomes demonstrate a very high level of practicality, categorised as highly practical. Subsequently, the effectiveness test using an independent sample t-test revealed a significant difference ($p < 0.001$) in the enhancement of conceptual understanding (N -Gain = 0.69, moderate-to-high category). These findings conclude that the Discovery Learning-based E-LKPD assisted by SAC is feasible, practical, and effective in enhancing the conceptual understanding of primary school students.

Keywords: *E-worksheet, Discovery Learning, Smart Apps Creator, Conceptual Understanding, Solid Geometry, Elementary Education.*