

PENGEMBANGAN MEDIA INTERAKTIF BERBASIS *ADAPTIVE MOBILE LEARNING* UNTUK MENINGKATKAN KEMANDIRIAN BELAJAR DAN KEMAMPUAN BERPIKIR KRITIS PADA MATERI SISTEM PENCERNAAN MANUSIA

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ABSTRAK

Siswa sekolah dasar masih menunjukkan ketergantungan tinggi pada arahan guru dengan kemandirian belajar dan kemampuan berpikir kritis di bawah standar kompetensi minimum. Penelitian ini bertujuan mengembangkan, memvalidasi, dan menguji efektivitas media interaktif berbasis *adaptive mobile learning* menggunakan *Google Sites* untuk menganalisis, mengevaluasi, dan mengoptimalkan kedua kompetensi tersebut pada materi sistem pencernaan manusia. Penelitian pengembangan ini mengadopsi model ADDIE dengan *desain one-group pretest-posttest*. Subjek penelitian melibatkan 3 ahli validasi, 1 guru praktisi, 9 siswa uji coba bertahap, dan 23 siswa untuk uji efektivitas. Data dikumpul melalui lembar validasi ahli, kuesioner kepraktisan, tes essay berpikir kritis, dan observasi. Analisis data mencakup uji validitas *Gregory*, reliabilitas *Cronbach's Alpha*, kepraktisan persentase, normalitas *Shapiro-Wilk*, dan uji-t berkorelasi. Hasil menunjukkan media memenuhi kriteria validitas sangat tinggi, kepraktisan sangat baik, serta efektivitas signifikan terhadap peningkatan kemandirian belajar dan berpikir kritis sesuai tujuan penelitian. Media *adaptive mobile learning* berbasis *Google Sites* terbukti menjadi solusi inovatif mengatasi ketergantungan siswa melalui personalisasi konten dan pembelajaran mandiri *anytime-anywhere*. Implikasi penelitian mendukung transformasi digital Kurikulum Merdeka dengan model replikable untuk literasi sains.

Kata Kunci: *Adaptive Mobile Learning*, Kemandirian Belajar, Berpikir Kritis, *Google Sites*, Pembelajaran Interaktif

***DEVELOPMENT OF INTERACTIVE MEDIA BASED ON ADAPTIVE
MOBILE LEARNING TO ENHANCE INDEPENDENT LEARNING AND
CRITICAL THINKING SKILLS IN THE HUMAN DIGESTIVE SYSTEM
CURRICULUM***

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ABSTRACT

Elementary school students still demonstrate a high degree of dependence on teacher guidance, with their learning independence and critical thinking skills falling below minimum competency standards. This study aims to develop, validate, and test the effectiveness of an interactive adaptive mobile learning medium using Google Sites to analyze, evaluate, and optimize these two competencies in the context of the human digestive system. This development study adopted the ADDIE model with a one-group pretest-posttest design. The study subjects included 3 expert validators, 1 practicing teacher, 9 students for the pilot test, and 23 students for the effectiveness test. Data were collected through expert validation sheets, practicality questionnaires, critical thinking essay tests, and observations. Data analysis included the Gregory validity test, Cronbach's Alpha reliability, practicality percentage, Shapiro-Wilk normality test, and correlated t-tests. The results indicate that the media meets very high validity criteria, demonstrates excellent practicality, and shows significant effectiveness in enhancing learning autonomy and critical thinking in line with the research objectives. The Google Sites-based adaptive mobile learning platform has proven to be an innovative solution to address student dependency through content personalization and anytime-anywhere self-directed learning. The research implications support the digital transformation of the Merdeka Curriculum with a replicable model for science literacy.

Keywords: *Adaptive Mobile Learning, Learning Independence, Critical Thinking, Google Sites, Interactive Learning*