

**PENGEMBANGAN MODEL EVALUASI *HIGHER-ORDER THINKING SKILLS*
SISWA SMP BERBASIS *MOBILE TECHNOLOGY*
(*ANDROID OPERATING SYSTEM*)**

DISERTASI

Disetujui dan Disahkan



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FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS PENDIDIKAN INDONESIA
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PENGEMBANGAN MODEL EVALUASI HIGHER-ORDER THINKING SKILLS
SISWA SMP BERBASIS MOBILE TECHNOLOGY
(ANDROID OPERATING SYSTEM)

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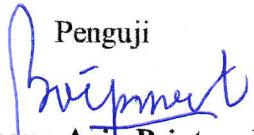
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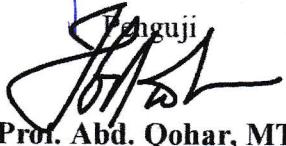
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PERNYATAAN

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Yang membuat pernyataan

Nia Kania

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ABSTRAK

Nia Kania. (2024). Pengembangan Model Evaluasi *Higher-Order Thinking Skills* Siswa SMP Berbasis *Mobile Technology (Android Operating System)*.

Higher-Order Thinking Skills (HOTS) menjadi kebutuhan esensial bagi siswa di Abad 21. Penelitian ini fokus pada HOTS, khususnya keterampilan *Mathematical Critical Thinking* (MCT), *Mathematical Creative Thinking* (MCrT), dan *Mathematical Problem-Solving* (MPS), yang masih rendah di kalangan siswa Indonesia. Tujuan penelitian ini adalah mengembangkan instrumen pengukur HOTS berbasis *Mobile Technology* (MT), yaitu "*LiveKelas*". Metode yang digunakan adalah *Research and Development* (R&D), meliputi fase *preliminary* dan *prototyping*, dengan partisipan satu guru dan 42 siswa kelas VIII di salah satu SMP di Kabupaten Majalengka tahun ajaran 2022/2023 dan 2023/2024. Hasil penelitian menunjukkan: (1) terdapat lima kesulitan utama siswa dalam pemecahan masalah matematis; (2) kebutuhan instrumen mencakup variasi soal dan pemanfaatan TIK; (3) desain instrumen HOTS berbasis ML terdiri dari dua fase krusial; (4) karakteristik instrumen mencakup *assessment of learning, as learning*, dan *for learning*; dan (5) respons siswa terhadap instrumen ini sangat positif. *LiveKelas* berpotensi sebagai alternatif masa depan dalam penilaian pembelajaran berbasis teknologi.

Kata Kunci: Desain instrumen, HOTS, *Mobile learning*, *Mathematical critical thinking*, *Mathematical creative thinking*, *Mathematical problem-solving*.

ABSTRACT

Nia Kania. (2024). *Development of a Model for Evaluation of Higher-Order Thinking Skills for Middle School Students Based on Mobile Technology (Android Operating System).*

Higher-order thinking skills (HOTS) are essential for the students in the 21st Century. This research focuses on HOTS, especially Mathematical Critical Thinking (MCT), Mathematical Creative Thinking (MCrT), and Mathematical Problem-Solving (MPS) skills, which are still low among Indonesian students. This research aims to develop a HOTS measuring instrument based on Mobile Technology (MT), namely "LiveKelas". The method used is Research and Development (R&D), including the preliminary and prototype phase. The participants in this research consist of one teacher and 42 eighth-grade students at a junior high school in Majalengka Regency in the 2022/2023 and 2023/2024 academic years. The research results show: (1) there are five main difficulties that the students encounter in solving mathematical problems; (2) the instrument requirements include a variety of questions and the use of information and communications technology; (3) the MT-based HOTS instrument design consists of two crucial phases: are preliminary and prototype phase; (4) the instruments include assessments of learning, as learning, and for learning; and (5) the students' responses to this instrument are very positive. LiveKelas has the potential to be a future alternative in technology-based learning assessment.

Keywords: *HOTS, Instrument design, Mobile technology, Mathematical critical thinking, Mathematical creative thinking.*

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