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

DISERTASI

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UNIVERSITAS PENDIDIKAN INDONESIA
2024

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

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PERNYATAAN

Dengan ini saya menyatakan bahwa disertasi dengan judul "Pengembangan Model Evaluasi *Higher-Order Thinking Skills* Siswa SMP Berbasis *Mobile Technology* (*Android Operating System*)" ini beserta seluruh isinya adalah benar-benar karya saya sendiri dan saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika keilmuan yang berlaku. Atas pertanyaan ini, saya siap menanggung risiko atau sanksi yang dijatuhkan kepada saya apabila kemudian ditemukan adanya pelanggaran terhadap etika keilmuan dalam karya saya ini atau ada klaim dari pihak lain terhadap keaslian karya saya.

Bandung, Desember 2024
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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