PENGEMBANGAN *ORDERED MULTIPLE CHOICE DIAGNOSTICS ASSESSMENT* (OMUCHODA) PADA MATERI DINAMIKA GERAK

TESIS

Diajukan sebagai syarat untuk memperoleh gelar Magister Pendidikan
Program Studi Pendidikan Fisika

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PROGRAM STUDI MAGISTER PENDIDIKAN FISIKA
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ABSTRAK

Dalam pendidikan fisika, instrumen pilihan ganda tradisional sering kali tidak mampu mengidentifikasi pemahaman konseptual siswa secara komprehensif. Oleh karena itu, penelitian ini didasari oleh kebutuhan akan instrumen pilihan ganda berbentuk hierarki untuk mata pelajaran fisika, sehingga dilakukan pengembangan instrumen *Ordered Multiple Choice Diagnostics Assessment* (OMUCHODA) pada materi Dinamika Gerak. Penelitian ini menggunakan desain *Research and Development* (R&D) dengan menggunakan model 4-D yaitu: *Define, Design, Develop, dan Disseminate*. Penelitian ini dilaksanakan di beberapa Sekolah Menengah Atas (SMA) yang ada di Indonesia. Hasil validasi konten instrumen OMUCHODA yang dilakukan oleh ahli dinyatakan valid dengan nilai S-CVI 0,98. Instrumen OMUCHODA memiliki karakteristik instrumen diagnostik berupa soal pilihan ganda dengan model hierarki linear, konvergen, dan divergen dengan total 34 atribut yang merepresentasikan 11 tujuan pembelajaran. Adapun masing-masing atribut berjumlah 3 sampai 4 atribut untuk setiap model hierarki yang dibuat. Instrumen ini layak digunakan, dibuktikan dengan kualitasnya yang mencakup validitas konten yang dinilai oleh ahli dengan hasil yang valid, validitas butir secara umum yang juga valid, reliabilitas instrumen yang sangat baik, serta indeks konsistensi hirarki yang secara umum berada pada kategori normal hingga sangat baik. Dari segi analisis bentuk tes pilihan ganda, instrumen yang dibuat memiliki tingkat kesukaran dari sangat mudah sampai sangat sulit, nilai separasi *person* dan item masing-masing 3 dan 7 level yang berbeda serta memiliki distraktor yang berfungsi dengan baik.

Kata kunci: dinamika gerak, OMUCHODA, pilihan ganda terurut

ABSTRACT

In physics education, traditional multiple-choice instruments often fail to comprehensively identify students' conceptual understanding. Therefore, this research is based on the need for a hierarchical multiple-choice instrument for physics subjects, leading to the development of the Ordered Multiple Choice Diagnostics Assessment (OMUCHODA) for dynamics of motion material.The study employed a research and development (R&D) design using the 4-D model: define, design, develop, and disseminate. This research was conducted in several high schools (SMA) in Indonesia. The content validation results for the OMUCHODA instrument, carried out by experts, were deemed valid with an S-CVI value of 0.98. The OMUCHODA instrument has diagnostic characteristics in the form of multiple-choice questions with linear, convergent, and divergent hierarchical models, encompassing a total of 34 attributes representing 11 learning objectives. Each hierarchical model comprises 3 to 4 attributes. This instrument is suitable for use, as evidenced by its quality, which includes content validity assessed by experts with valid results, item validity that is generally valid, excellent instrument reliability, and a hierarchical consistency index that is generally categorized as normal to excellent. In terms of the multiple-choice test analysis, the instrument exhibits a difficulty level ranging from very easy to very difficult, with 3 and 7 levels of person and item separation, respectively, and well-functioning distractors.

Keywords: dynamics of motion, OMUCHODA, ordered multiple choice

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