

ABSTRAK

PENGEMBANGAN INSTRUMEN PENILAIAN BERBASIS *ADAPTIVE ASSESSMENT* UNTUK MENGUKUR KETERAMPILAN BERPIKIR KRITIS PADA MATERI FLUIDA STATIS

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Penelitian ini bertujuan untuk mengembangkan dan mendeskripsikan validitas, reliabilitas empiris, serta kepraktisan instrumen penilaian berbasis *Adaptive Assessment* untuk mengukur keterampilan berpikir kritis siswa pada materi fluida statis. Penelitian menggunakan pendekatan *Research and Development (R&D)* dengan model 4D. Instrumen yang dikembangkan berupa soal pilihan ganda beralasan berdasarkan indikator berpikir kritis Ennis dan dianalisis menggunakan *Partial Credit Model (PCM)* dan model Rasch. Uji coba terbatas melibatkan 159 responden, sedangkan uji coba luas melibatkan 62 responden. Hasil penelitian menunjukkan bahwa media penilaian memiliki validitas sebesar 91,3% dengan kategori sangat valid dan validitas isi berada pada nilai V Aiken > 0.92 . Seluruh butir soal memenuhi kriteria *item fit* serta memiliki reliabilitas tinggi (KR-20 = 0,90; reliabilitas person = 0,89; reliabilitas item = 0,98). Tingkat kesukaran butir berada pada rentang $-1,04$ hingga $0,95$ logit dan 93% butir soal bebas dari bias. Kepraktisan instrumen memperoleh skor rata-rata 91,43% dari siswa dan 80,66% dari guru. Dengan demikian, instrumen penilaian adaptif yang dikembangkan dinyatakan valid, reliabel, dan praktis untuk mengukur keterampilan berpikir kritis siswa dalam pembelajaran fisika, khususnya pada materi fluida statis.

Kata kunci : *Adaptive Assessment*, Berpikir Kritis, Fluida Statis, Instrumen Penilaian, Item Respon Theory

ABSTRACT

DEVELOPMENT OF *ADAPTIVE ASSESSMENT*-BASED ASSESSMENT INSTRUMENTS TO MEASURE CRITICAL THINKING SKILLS IN STATIC FLUID MATERIALS

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This study aims to develop and describe the validity, empirical reliability, and practicality of *Adaptive Assessment*-based assessment instruments to measure students' critical thinking skills on static fluid materials. The research used a *Research and Development* (R&D) approach with a 4D model. The instrument developed in the form of a reasoned multiple-choice question based on Ennis' critical thinking indicator and analyzed using *the Partial Credit Model* (PCM) and the Rasch model. The limited trial involved 159 respondents, while the broad trial involved 62 respondents. The results showed that the assessment media had a validity of 91.3% with a very valid category and the validity of the content was in >0.92 . All question items met the criteria of *item fit* and had high reliability (KR-20 = 0.90; person reliability = 0.89; item reliability = 0.98). The difficulty level of the items was in the range of -1.04 to 0.95 logits and 93% of the questions were free of bias. The practicality of the instrument obtained an average score of 91.43% from students and 80.66% from teachers. Thus, the *Adaptive Assessment* instrument developed is declared valid, reliable, and practical to measure students' critical thinking skills in physics learning, especially in static fluid materials.

Keywords: Adaptive Assessment, Critical Thinking, Static Fluid, Assessment Instruments, Item Respon Theory