

ABSTRAK

Prawira Tri Admaja. 2026. *Pengembangan Computer Based Test (CBT) Attitude Toward Physics (ATP) di Karesidenan Madiun*. Skripsi. Program Studi Pendidikan Fisika, FKIP, Universitas PGRI Madiun. Pembimbing (I) Dr. Jeffry Handhika, S.Si., M.Pd., M.Si., (II) Farida Huriawati, S.Si., M.Si.

Pengukuran *Attitude Toward Physics* (ATP) di lingkungan sekolah selama ini masih bertumpu pada lembar angket kertas konvensional. Mekanisme pengumpulan hingga pengolahan data manual ini lambat, sehingga pendidik kerap kehilangan data diagnostik cepat untuk menentukan intervensi instruksional di kelas. Penelitian pengembangan (*Research and Development*) ini bertujuan merekayasa instrumen *Computer-Based Test Attitude Toward Physics* (CBT-ATP), menguji kelayakan sistem beserta butirnya, serta mengungkap profil sikap siswa SMA di Karesidenan Madiun.

Kerangka pengembangan memadukan model tes Oriondo & Antonio (1984) guna menguji butir instrumen dan model 4D (*Define, Design, Develop, Disseminate*) dari Thiagarajan et al. (1974) sebagai basis arsitektur platform ujian. Skala sikap mengadaptasi konstruk *Indonesian Modification of Physics Attitude Scale* (IMPAS) yang memuat lima dimensi dengan total 29 butir pernyataan. Tahap uji kelayakan melibatkan enam validator ahli (empat pendidik fisika dan dua praktisi media), dilanjutkan pengujian empiris pada 262 siswa kelas XI MIPA di enam SMA se-Karesidenan Madiun via sistem Moodle.

Hasil riset membuktikan produk CBT-ATP berada pada kategori sangat valid dan andal. Rerata skor ahli materi menyentuh 92% dan ahli media 93%, didukung perolehan *Content Validity Index* (CVI) sebesar 0,845 (relevansi butir) dan 0,828 (kesesuaian indikator), serta koefisien reliabilitas *Cronbach's Alpha* mencapai 0,787 (kategori tinggi). Selanjutnya, pemetaan profil ATP dari 262 responden didominasi tingkat sedang sebanyak 191 siswa (73%), disusul kategori rendah 62 siswa (24%), dan kategori tinggi hanya 9 siswa (3%). Temuan empiris ini menegaskan bahwa pandangan afektif siswa terhadap materi fisika tergolong cukup, namun belum diimbangi gairah dan motivasi belajar yang kokoh. Oleh sebab itu, integrasi model pembelajaran yang kontekstual, interaktif, dan berbasis teknologi mutlak diperlukan demi mendongkrak orientasi sikap positif peserta didik di kelas fisika.

Kata Kunci: Computer Based Test, Attitude Toward Physics, pengembangan instrumen, Moodle, sikap siswa

ABSTRACT

Prawira Tri Admaja. 2026. *Development of Computer-Based Test (CBT) for Attitude Toward Physics (ATP) in Madiun Residency*. Undergraduate Thesis. Physics Education Study Program, Faculty of Teacher Training and Education, Universitas PGRI Madiun. Advisors: (I) Dr. Jeffry Handhika, S.Si., M.Pd., M.Si., (II) Farida Huriawati, S.Si., M.Si.

Conventional paper-based questionnaires remain the primary medium for assessing students' Attitude Toward Physics (ATP) in secondary schools. This manual workflow often hampers the efficiency of data collection, processing, and reporting, ultimately depriving educators of timely diagnostic insights required to adjust instructional strategies. Addressing this challenge, this Research and Development (R&D) study aims to engineer a Computer-Based Test Attitude Toward Physics (CBT-ATP) platform, evaluate its psychometric and operational validity, and map the affective profiles of high school students across the Madiun Residency.

The development framework integrates Oriondo and Antonio's (1984) test development model for item refinement with the 4D model (Define, Design, Develop, Disseminate) by Thiagarajan et al. (1974) for platform architecture. The affective construct was built upon the Indonesian Modification of Physics Attitude Scale (IMPAS), comprising five dimensions and 29 statement items. The instrument underwent rigorous appraisal by six expert validators (four physics teachers and two educational media specialists) prior to empirical field testing involving 262 eleventh-grade science students across six public high schools via the Moodle LMS.

The findings confirm that the CBT-ATP system exhibits outstanding validity and reliability. Material experts and media specialists rated the platform at 92% and 93% (highly valid), respectively. Content validity was substantiated by Content Validity Index (CVI) values of 0.845 for item relevance and 0.828 for indicator alignment, paired with a robust Cronbach's Alpha coefficient of 0.787 (high reliability). Furthermore, the baseline ATP profile across the 262 participants was predominantly moderate (191 students; 73%), followed by low (62 students; 24%), and high (9 students; 3%). These empirical results suggest that while students maintain a reasonable perception of physics, they lack strong enthusiasm and intrinsic motivation. Consequently, incorporating contextual, interactive, and technology-enhanced learning interventions is imperative to elevate students' positive attitudes toward physics.

Keywords: Computer-Based Test, Attitude Toward Physics, instrument development, Moodle, student attitude.