

PENGEMBANGAN INSTRUMEN TES BERBASIS HOTS PADA MATERI MOMENTUM DAN IMPULS DI SMA NEGERI 7 MEDAN

ABSTRAK

Tujuan penelitian ini adalah untuk mengembangkan instrumen tes berbasis HOTS pada materi momentum dan impuls yang layak berdasarkan validitas, reliabilitas, daya pembeda, tingkat kesukaran, dan efektivitas pengecoh di SMA Negeri 7 Medan. Jenis penelitian ini adalah penelitian dan pengembangan dengan model pengembangan 4D (*Define, Design, Develop, Dessiminate*). Instrumen yang digunakan dalam penelitian ini adalah angket validasi ahli, instrumen HOTS, dan angket respon peserta didik. Uji validasi ahli dilakukan kepada 3 orang ahli, uji kelompok kecil dilakukan kepada 10 peserta didik kelas XI IPA SMA Negeri 7 Medan dan uji kelompok besar dilakukan kepada 30 peserta didik kelas XI IPA SMA Negeri 7 Medan. Hasil penelitian menunjukkan bahwa berdasarkan validasi ahli, 25 butir soal dinyatakan valid. Berdasarkan implementasi uji kelompok besar diperoleh 12 (57%) soal valid, reliabel dengan nilai 0,77 dengan kategori reliabilitas tinggi, daya pembeda soal antara 0,4 sampai 0,47, tingkat kesukaran soal antara 0,1 sampai 0,76 dan efektivitas pengecoh soal rata-rata kategori baik. Instrumen tes yang telah dikembangkan mendapat respon peserta didik sebesar 81,1 % dengan kategori sangat baik.

Kata kunci: 4D (*Define, Design, Develop, Dessiminate*), HOTS, Validitas, Reliabilitas, Daya beda, Tingkat kesukaran

THE DEVELOPMENT OF HOTS-BASED TEST INSTRUMENT IN MATERIALS OF MOMENTUM AND IMPULSE AT SMA 7 MEDAN

ABSTRACT

The objective of this study was to develop a HOTS-based test instrument in the materials of momentum and impulse based on validity, reliability, discriminating power, level of difficulty, and effectiveness of distractors at SMA Negeri 7 Medan. This type of research is research and development with a 4D development model (Define, Design, Develop, Disseminate). The instruments used in this study were expert validation questionnaires, HOTS instruments, and student response questionnaires. The expert validation test was conducted on 3 experts, the small group test was conducted on 10 students of class XI science at SMA Negeri 7 Medan and the large group test was conducted on 30 students in class XI science at SMA Negeri 7 Medan. The results showed that based on expert validation, 25 items were declared valid. Based on the implementation of the large group test, 12 (57%) questions were valid, and reliable with a value of 0.77 with a high-reliability category, the discriminatory power of questions was between 0.4 to 0.47, the level of difficulty of the questions was between 0.1 to 0.76 and the effectiveness distractor about the average good category. The test instrument that has been developed has received a response from students of 81.1% with a very good category.

Keywords: 4D (*Define, Design, Develop, Disseminate*), HOTS, *Validity, Reliability, Distinction, Difficulty level*