

## ABSTRAK

**Silva Farrera Avista, NIM 4181121012 (2022). Pengembangan Instrumen Tes Berbasis Pemecahan Masalah Pada Materi Fluida Dinamis di Kelas XI SMA Negeri 7 Medan**

Penelitian ini bertujuan untuk mengetahui proses pengembangan, hasil pengujian kelayakan dan respon siswa terhadap instrumen tes berbasis pemecahan masalah pada materi fluida dinamis. Jenis penelitian ini adalah penelitian pengembangan menggunakan model 4D (*Define, Design, Development and Disseminate*). Penelitian dilakukan di SMA Negeri 7 Medan dengan subjek penelitian siswa-siswi kelas XI IPA 1 yang berjumlah 12 orang siswa untuk uji coba skala kecil dan 35 orang siswa untuk uji coba skala luas. Berdasarkan analisis validitas isi menggunakan indeks Validitas Aiken, diperoleh 11 soal dapat dilanjutkan ke tahap uji coba. Pada uji coba skala kecil, diperoleh hasil validitas butir soal sebanyak 8 soal valid dan 3 soal tidak valid. Nilai reliabilitas sebesar 0,90 dengan kriteria sangat tinggi. Berdasarkan tingkat kesukaran diperoleh 3 soal mudah dan 8 soal sedang. Dari aspek daya pembeda diperoleh 1 soal sangat baik, 5 soal baik dan 5 soal cukup. Uji respon siswa diperoleh rata-rata sebesar 85% kategori sangat baik. Dari uji coba skala kecil, soal yang tidak memenuhi kriteria harus direvisi agar dapat diujikan ke skala luas. Pada uji coba skala luas, diperoleh hasil validitas butir soal sebanyak 9 soal valid dan 2 soal tidak valid. Nilai reliabilitas sebesar 0,79 dengan kriteria tinggi. Ditinjau dari tingkat kesukaran diperoleh 3 soal mudah, 1 soal sukar dan 7 soal sedang. Dari aspek daya pembeda diperoleh 2 soal sangat baik, 4 soal baik, 4 soal cukup dan 1 soal jelek. Uji respon siswa diperoleh rata-rata sebesar 81% kategori sangat baik. Berdasarkan keseluruhan hasil pengujian diperoleh kesimpulan bahwa 9 soal layak dan diterima sebagai instrumen tes berbasis pemecahan masalah pada materi fluida dinamis.

**Kata Kunci:** Pengembangan Instrumen Tes, Pemecahan Masalah, Fluida Dinamis, Model 4D



## ABSTRACT

**Silva Farrera Avista, NIM 4181121012 (2022). Development of Problem Solving Based Test Instruments on Dynamic Fluid Materials in Class XI SMA Negeri 7 Medan**

This study aims to determine the development process, the results of feasibility testing and student responses to problem solving based test instruments on dynamic fluid materials. This type of research is development research using a 4D model (Define, Design, Development and Disseminate). The study was conducted at SMA Negeri 7 Medan with the research subjects of class XI IPA 1 students, totaling 12 students for small-scale trials and 35 students for large-scale trials. Based on the content validity analysis using the Aiken Validity index, 11 questions were obtained that could be continued to the trial stage. In a small-scale trial, the results of the validity of the items were obtained as many as 8 valid questions and 3 invalid questions. The reliability value is 0.90 with very high criteria. Based on the level of difficulty obtained 3 easy questions and 8 moderate questions. From the aspect of discriminating power, 1 very good question, 5 good questions and 5 sufficient questions were obtained. Student response test obtained an average of 85% very good category. From small-scale trials, questions that do not meet the criteria must be revised so that they can be tested on a large scale. In a wide-scale trial, the results of the validity of the items were 9 valid questions and 2 invalid questions. The reliability value is 0.79 with high criteria. Judging from the level of difficulty, there were 3 easy questions, 1 difficult question and 7 medium questions. From the aspect of discrimination, there are 2 very good questions, 4 good questions, 4 sufficient questions and 1 bad question. Student response test obtained an average of 81% very good category. Based on the overall test results, it was concluded that 9 questions were appropriate and accepted as test instruments based on problem solving on dynamic fluid materials.

**Keywords:** Development of Test Instruments, Problem Solving, Dynamic Fluids, 4D model

