

ABSTRAK

Nur Afnia Br Surbakti, NIM 4173321035 (2017). Pengembangan Instrumen Tes Pemecahan Masalah untuk Mengukur Kemampuan Kognitif Siswa pada Materi Vektor Kelas X Semester 1 di SMA.

Penelitian ini bertujuan untuk mengembangkan dan menguji kelayakan instrumen tes pemecahan masalah pada materi vector sehingga dapat digunakan sebagai bahan instrumen penilaian yang dapat mengukur kemampuan kognitif siswa. Jenis penelitian ini ialah penelitian R&D (*Research and Development*) dengan menggunakan model pengembangan 4D (*Define, Design, Develop, Dessiminate*) dimana pada penelitian ini hanya sampai pada tahap *Develop*. Subjek penelitian ini yaitu siswa-siswi kelas X IA-1 dan IA-2 SMAS Brigjen Katamso-01 Medan. Data penelitian diperoleh berdasarkan uji kelayakan instrumen tes (validasi, realibilitas, taraf kesukaran, daya pembeda, dan respon siswa). Validasi ahli dari 3 validator menghasilkan nilai rata-rata sebesar 86% yang bermakna instrumen tes layak untuk diujikan. Sedangkan hasil validitas butir soal dari kelas berskala kecil sebesar 87% dan hasil dari kelas berskala besar yaitu 75% soal dikatakan valid. Reliabilitas dari kelas berskala kecil sebesar 0,607 sedangkan reliabilitas dari kelas berskala besar yaitu 0,63 dan dikatakan reliabel. Taraf kesukaran pada pengujian kelas kecil didapatkan bahwa 7 soal dalam katagori sedang dan 1 soal mudah, sedangkan pada kelas besar didapatkan 8 soal dalam katagori sedang. Daya pembeda pada pengujian kelas besar didapatkan bahwa 1 soal berkriteria buruk, 3 soal sedang dan 4 soal baik. Sedangkan hasil daya pembeda dari kelas berskala besar didapatkan bahwa 2 soal dalam kriteria buruk, 3 soal sedang, dan 3 soal baik. Hasil uji respon siswa didapatkan bahwa persentasi respon positif dari 16 sampel sebesar 91,88% dalam katagori sangat baik dan respon negatif sebesar 8,13%. Hasil kemampuan kognitif siswa dalam mengerjakan instrumen tes pemecahan masalah tersebut sebesar 55,1 kelas kecil dan 54,4 kelas besar. Berdasarkan hasil tersebut dapat disimpulkan bahwa instrumen tes pemecahan masalah pada materi vector memenuhi hasil pengujian kelayakan instrumen tes sehingga dapat digunakan sebagai bahan untuk mengukur dan menilai kemampuan kognitif untuk pembelajaran tatap muka maupun daring.

Kata Kunci : Penelitian Pengembangan (R&D), Model 4D, Instrumen Tes, Pemecahan Masalah

ABSTRACT

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This study aims to develop and test an instrument to test the problem on the material vector so that it is used as an assessment material that can measure students' cognitive abilities. This type of research is an R&D (Research and Development) research using a 4D development model (Define, Design, Develop, Disseminate) which in this study only reached the Develop stage. The subjects of this study were students of class X IA-1 and IA-2 SMA Brigjen Katamso-01 Medan. The data were obtained based on the instrument's feasibility test (validation, reliability, level of difficulty, discriminatory power, and student responses). Expert validation from 3 validators resulted in an average value of 86% which means the test instrument is feasible to be tested. While the results of the validity of the items from the small class are 87% and the results from the large class are 75% of the questions are said to be valid. The reliability of the small class is 0.607, the reliability of the large class is 0.63 and is said to be reliable. The level of difficulty in the small class test found that 7 questions were in the medium category and 1 was easy, while in the large class there were 8 questions in the medium category. Distinguishing power in the large class test was found that 1 question had bad criteria, 3 questions were moderate and 4 questions were good. While the results of the distinguishing power of the giant class were found that 2 questions were in bad criteria, 3 questions were moderate, and 3 questions were good. The results of the student response test showed that the percentage of positive responses from the 16 samples was 91.88% in the very good category and the negative response was 8.13%. The results of the students' cognitive abilities in working on the problem-solving test instrument were 55.1 for the small class and 54.4 for the large class. Based on these results, it can be ascertained that the problem-solving test instrument on vector material meets the requirements of instrument testing so that it can be used as material to measure and assess face-to-face and brave learning abilities

Keywords: Development Research (R&D), 4D Model, Test Instruments, Problem Solving