ABSTRAK

PENGEMBANGAN SOAL EVALUASI BERBASIS LITERASI SAINS UNTUK MENGUKUR KEMAMPUAN MENJELASKAN FENOMENA SECARA ILMIAH PADA MATERI SISTEM GERAK KELAS XI IPA

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Penelitian ini dilatarbelakangi masih rendahnya kemampuan literasi sains peserta didik di Indonesia. Hasil analisis kebutuhan melalui wawancara menyatakan bahwa guru belum pernah mengembangkan instrumen soal untuk mengukur kemampuan literasi sains peserta didik. Penelitian ini bertujuan untuk 1) mengembangkan soal evaluasi berbasis literasi sains pada materi sistem gerak kelas XI IPA, 2) mengetahui kelayakan soal evaluasi berbasis literasi sains pada materi sistem gerak kelas XI IPA dan 3) mengetahui kepraktisan dan analisis butir soal evaluasi berbasis literasi sains pada materi sistem gerak kelas XI IPA. Penelitian ini merupakan penelitian *Research & Development* (R&D) dengan menggunakan model pengembangan yang dikemukakan oleh Thiagarajan yang dikenal dengan 4D (*Define, Design, Development, and Dissemination*). Pada penelitian dan pengembangan ini hanya dilakukan sampai tahap *development*. Hasil penelitian menunjukkan bahwa peneliti dapat mengembangkan produk berupa soal evaluasi sebanyak 30 butir soal pilihan ganda. Instrumen soal evaluasi layak digunakan berdasarkan nilai validator sebesar 0,9 kriteria "sangat valid". Artinya instrumen soal yang dibuat memiliki kesesuaian terhadap indikator yang diukur. Uji kepraktisan soal melalui respon mahasiswa skala terbatas diperoleh hasil sebesar 88% kategori "sangat praktis" artinya mudah digunakan bagi pengguna. Uji validitas menghasilkan 17 butir soal valid dan reliabel dengan nilai sebesar 1,032. Uji daya pembeda bertujuan untuk membedakan kelompok yang memiliki pengetahuan tinggi dan pengetahuan rendah. Distribusi daya pembeda kriteria sangat baik 13%, kriteria baik 13%, kriteria cukup 20%, kriteria jelek 47% dan kriteria sangat jelek 7%. Dengan demikian soal literasi sains yang dikembangkan layak diujicobakan terbatas serta praktis digunakan.

Kata Kunci : *Research & Development*, Literasi Sains, Soal Evaluasi, dan Kepraktisan.

ABSTRACT

DEVELOPMENT OF SCIENTIFIC LITERACY-BASED EVALUATION QUESTIONS TO MEASURE THE ABILITY TO EXPLAIN PHENOMENA SCIENTIFICALLY IN CLASS XI SCIENCE MOTION SYSTEM MATERIAL

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This research is motivated by the low level of scientific literacy among students in Indonesia. The analysis of needs through interviews indicated that teachers have never developed instruments to measure students' scientific literacy. This study aims to: 1) develop a science literacy-based evaluation test on the topic of motion system for grade XI science students, 2) determine the feasibility of the science literacy-based evaluation test on the topic of motion system for grade XI science students, and 3) assess the practicality and item analysis of the science literacy-based evaluation test on the topic of motion system for grade XI science students. This research adopts the Research & Development (R&D) approach, using the development model proposed by Thiagarajan, known as the 4D model (Define, Design, Development, and Dissemination). The research and development process is carried out until the development stage. The results of the research indicate that the researcher successfully developed a product in the form of an evaluation test consisting of 30 multiple-choice items. The evaluation test instrument is considered valid based on the validator's score of 0.9, indicating "very valid" criteria. This means that the test instrument created aligns well with the measured indicators. The practicality test through limited-scale student responses yielded a result of 88% in the category of "very practical," indicating that it is easy to use for the users. The validity test resulted in 17 valid and reliable items with a value of 1.032. The discrimination power test aims to distinguish between groups with high and low knowledge. The distribution of the discrimination power is as follows: very good criteria 13%, good criteria 13%, fair criteria 20%, poor criteria 47%, and very poor criteria 7%. Thus, the developed science literacy test is suitable for limited-scale trials and practical use.

Keywords: Research & Development, Scientific Literacy, Evaluation Test, and Practicality.