

ABSTRAK

PENGEMBANGAN INSTRUMEN PENILAIAN UNTUK MENGUKUR KEMAMPUAN KETERAMPILAN PROSES SAINS DAN *CREATIVE PROBLEM SOLVING* BERBANTU *RASCH MODEL ANALYSIS* PADA MATERI TEORI KINETIK GAS

Oleh

Mira Fitri Yanti

Penilaian terhadap kemampuan keterampilan proses sains dan *creative problem solving* perlu dilakukan oleh guru. Namun, kurangnya instrumen penilaian untuk keterampilan proses sains dan *creative problem solving* yang dikembangkan oleh guru membuat kedua keterampilan tersebut tidak dapat diukur terhadap peserta didik. Penelitian ini bertujuan untuk mengembangkan instrumen penilaian untuk mengukur kemampuan keterampilan proses sains dan *creative problem solving* yang valid dan reliabel. Jenis penelitian ini adalah penelitian pengembangan (*R&D*) dengan menggunakan metode *ADDIE* yaitu 1) *analyze*, 2) *Design*, 3) *Development* 4) *Implementation* 5) *evaluation*. Diperoleh hasil validasi ahli untuk menilai aspek konstruksi, substansi, dan bahasa dengan rata-rata sebesar 88,66 % untuk KPS dan 86,66 % untuk CPS dengan kategori sangat tinggi. Setelah dinyatakan layak dilakukan uji coba terbatas dan diperoleh 15 butir soal valid untuk KPS dan 14 butir soal valid untuk CPS. Kemudian, instrumen penilaian ini diujicobakan pada 66 siswa dan selanjutnya dianalisis menggunakan *software* Winstep. Berdasarkan hasil analisis data uji coba diperoleh sebanyak 29 butir soal instrumen KPS dan CPS dinyatakan valid. Butir soal pada instrumen penilaian KPS dan CPS dinyatakan reliabel dengan nilai *alpha Cronbach* berturut-turut sebesar 0,95 dan 0,96 dengan kategori sangat baik. Produk akhir instrumen untuk mengukur KPS dan CPS yang dikembangkan telah memenuhi standar kelayakan instrumen, yaitu valid, dan reliabel.

Kata kunci: Instrumen penilaian, kemampuan proses sains, *creative problem solving*, teori kinetik gas

ABSTRACT

DEVELOPMENT OF AN ASSESSMENT INSTRUMENT TO MEASURE SCIENCE PROCESS SKILLS AND CREATIVE PROBLEM-SOLVING ABILITIES SUPPORTED BY RASCH MODEL ANALYSIS ON THE TOPIC OF KINETIC THEORY OF GASES

By

Mira Fitri Yanti

Assessment of students' scientific process skills and creative problem-solving abilities needs to be conducted by teachers. However, the lack of assessment instruments specifically developed by teachers for measuring scientific process skills (SPS) and creative problem solving (CPS) has made it difficult to assess these competencies in students. This study aims to develop a valid and reliable assessment instrument to measure students' scientific process skills and creative problem-solving abilities. This research is a type of research and development (R&D) using the ADDIE model, which consists of: 1) Analyze, 2) Design, 3) Development, 4) Implementation, and 5) Evaluation. Expert validation results on the aspects of construction, substance, and language obtained average scores of 88.66% for SPS and 86.66% for CPS, both categorized as very high. After being declared feasible, a limited trial was conducted, resulting in 15 valid items for SPS and 14 valid items for CPS. The assessment instrument was then tested on 66 students and analyzed using Winsteps software. Based on the analysis of the trial data, a total of 29 items from the SPS and CPS instruments were declared valid. The reliability of the SPS and CPS instruments was confirmed with Cronbach's alpha values of 0.95 and 0.96 respectively, indicating a very high reliability category. The final product of the instrument developed to assess SPS and CPS meets the criteria of a feasible assessment tool: valid and reliable.

Keywords: Assessment instrument, scientific process skills, creative problem solving, kinetic theory of gases