ABSTRAK

Nurul Indah Pratiwi. NIM. 8176141007. Pengembangan Instrumen Asesmen *Higher Order Thinking Skills* (HOTS) Merujuk Kurikulum 2013 Pada Materi Termokimia Untuk Siswa SMA. Tesis. Medan: Program Studi Pendidikan Kimia, Pascasarjana Universitas Negeri Medan, 2021.

Penelitian ini bertujuan untuk mengetahui hasil analisis kebutuhan instrumen HOTS merujuk K-13 pada materi termokimia; kategori kelayakan instrumen menurut ahli, hasil uji coba instrumen dengan menggunakan Rasch Model, kemampuam berpikir tingkat tinggi siswa, dan persepsi siswa terhadap instrumen yang dikembangkan. Instrumen HOTS merujuk K-13 pada materi termokimia dikembangkan menggunakan model 4-D dengan tahapan *define, design, develop*, dan *disseminate*. Selanjutnya diuji kelayakan instrumen oleh validator ahli dan pengujian secara empiris kepada siswa. Untuk mengetahui kemampuan berpikir tingkat tinggi dan persepsi siswa, instrumen diujicobakan kepada 38 orang siswa. Diperoleh sebanyak 30 item instrumen HOTS merujuk K-13 pada materi termokimia. Pada tahap *define*, diperoleh hasil analisis melalui wawancara terhadap guru bidang studi kimia bahwa dibutuhkannya instrumen HOTS. Hasil validasi oleh ahli menunjukkan bahwa instrumen HOTS merujuk K-13 terkategori tinggi (0.90). Sedangkan hasil uji empiris menunjukkan bahwa vaiditas item tinggi (0.9), reliabilitas yang cukup (0.69), tingkat kesukaran sedang, daya pembeda sebesar 66.6%, dan pengecoh baik (63.3%). Profil kemampuan berpikir tingkat tinggi siswa terkategori rendah, sedangkan persepsi siswa terhadap instrumen HOTS diperoleh sebesar 61.2% memberikan respon positif. Telah dihasilkan instrumen HOTS merujuk K-13 pada materi termokimia yang sesuai dengan kriteria kelayakan serta dapat digunakan untuk mengukur kemampuan berpikir tingkat tinggi siswa.

Kata Kunci: HOTS, kurikulum 2013, rasch model, model 4-D, termokimia.

ABSTRACT

Nurul Indah Pratiwi. NIM. 8176141007. Development of Instruments Assessment Higher Order Thinking Skills (HOTS) Referring to 2013 Curriculum in Thermochemical for High School Students. Thesis. Medan: Department of Chemistry Education, Postgraduate of State University of Medan, 2021.

This study aims to determine the results of the analysis of the needs of the K-13 based HOTS instrument on thermochemical material; according to the expert the category of instrument appropriateness, the results of the instrument trial using the Rasch Model, students high-level thinking skills, and students' perceptions of the developed instrument. The K-13 based HOTS instrument on thermochemical material was developed using a 4-D model with the stages of define, design, develop, and disseminate. Furthermore, the feasibility of the instrument was tested by expert validators and empirical testing of students. To find out the higher order thinking skills and students' perceptions, the instrument was tried out on 38 students. There were 30 items of K-13 based HOTS instruments on the thermochemical. At the define stage, the analysis results obtained through interviews with teachers in the field of chemistry studies that the HOTS instrument is needed. The results of validation by experts show that the HOTS instrument based on K-13 is in the high category (0.90). Meanwhile, the empirical test results show that the item variability is high (0.9), the reliability is sufficient (0.69), the level of difficulty is moderate, distinguishing power of 66.6%, and good trickster (63.3%). The profile of students high-order thinking skills is categorized as low, and the results of the analysis of students' responses to the HOTS instrument obtained 61.2% of students gave positive responses. Thus, the conclusion of this development is that a K-13 based HOTS instrument has been produced on thermochemical that is in accordance with the eligibility criteria and can be used to measure students' higher order thinking skills.

Keywords: HOTS, 2013 curriculum. Rasch medel, a 4-D model, thermochemical.