

DEVELOPMENT OF CHEMISTRY PRACTICAL SKILL ASSESSMENT MODELS FOR SENIOR HIGH SCHOOL

by Senam, Jaslin Ikhsan, Crys Fajar Partana, Nurfinaz Aznam

ABSTRACT

Chemistry learning in senior high school is carried out through theoretical learning in the classroom followed by practicum in the laboratory. Assessments conducted by teachers are more dominant based on the results of chemical knowledge tests that have not considered scores on the assessment of practical skills in the laboratory. In this case, it is necessary to develop a chemistry practical skills assessment models, which the results are used to determine the student's final score. For this reason, this study aims: 1) to develop chemistry practical skills assessment models for students in senior high schools; 2) to find out the appropriateness of the chemistry practical skills assessment model for students in senior high school; and 3) to find out the effectiveness of the chemistry practical skills assessment model in senior high school.

The goal of this research is to develop chemistry practical skills assessment model. The method used in this research is research and development (R&D). The product in the form of chemistry practical skills assessment model is used to assess the learning of chemistry in Grade X Senior High School students. The assessment model developed includes projects, observations, and portfolio. The development model used is adapted from the Borg and Gall model (1983: 772-775) with ten development steps, namely: (1) information gathering; (2) planning; (3) development of initial forms of product; (4) preliminary field trials; (5) major product revisions; (6) main field trials; (7) product revisions to the main field test; (8) operational field testing; (9) revision of the final product; and (10) product dissemination and implementation. The preliminary study consist of two activities, which are literature review and field survey. The planning phase consists of two activities, which are analysis of competency standards and basic competencies, then determination of learning objectives. The product development phase consists of three activities, which are determination of practical skills criteria, product development of practical skills assessment model, and development of scoring rubrics. Phase of product validation consists of three steps, namely development of research instruments, product validation by an assessment expert, and revision I. Phase of trial includes four steps, which are limited trials, revision II, more extensive trials, and revision III. Phase of dissemination will be consisting of two steps, they are finalize the product, and product dissemination. The field survey activity involved 18 senior high school grade X chemistry teachers in the Special Region of Yogyakarta and 25 students from 5 districts (cities of Yogyakarta, Sleman, Bantul, Kulonprogo and Gunungkidul). Product validators are 2 experts. Data collection methods in this study were carried out by observation, interviews and questionnaires. The respondents consist of teachers, senior high school students and experts. Interview and questionnaire methods were used in phase of preliminary study. The questionnaire is used to collect data in phase of validation, trial, and dissemination. Data analysis included validity, reliability and test ability. The data analysis will use quantitative and qualitative descriptive.

The results of this study namely: 1) an instrument for practical skills assessment in chemistry for the topic acid-base has been developed for assessing the ability of chemistry lab work in high school; 2) the suitability of the high school chemistry practical skills assessment model is only based on validation from the validator and input from the high school chemistry teacher, however after the high school chemistry learning process runs face-to-face, empirical validation will be carried out; and 3) The effectiveness of the chemical practical skills assessment instrument for assessing the chemical practical skills of high school students cannot be known empirically, because the developed instruments have not been tested empirically.

Kata Kunci: *practical skills, model, chemistry*