

MODEL DESIGN OF CHEMICAL LEARNING CONCEPT ATTAINMENT BASED ON MULTIPLE REPRESENTATION TO IMPROVE CREATIVE THINKING ABILITY OF SMA / MA STUDENTS

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ABSTRACT

This study aims to analyze the characteristics of the chemistry learning model concept attainment based on multiple representations (CAbMR), the feasibility of a learning plan to apply the model, the feasibility of multiple thinking based creative thinking tests as a support system for the developed models and to analyze the creative thinking abilities of high school students in chemistry learning with the CAbMR model.

The type of research used is Research and Development (R&D), in accordance with the research objectives to produce a learning model and test its effectiveness. Application of R&D application according to Borg & Gall in this study has not been carried out perfectly, only to the stage of preliminary field testing, which is limited testing at one school to obtain qualitative data through interviews and questionnaires and quantitative data through pre-experimental research. The feasibility test in theory involves two instructor-learning lecturers. The readability and readiness test involved two high school chemistry teachers and five high school students in class X1. Preliminary field testing is carried out at SMA N 1 Yogyakarta in class XI MIA9. The number of subjects was 29 students. The trial design is pre experimental with post only test.

The CAbMR learning model that has characteristics; (1) four stages of learning (2) Initiation of students' understanding of the four representations of chemical phenomena; (3) the active role of students in group collaboration (4) the broadest facilitation for students to express ideas and obtain feedback; (5) train students' creative thinking skills through the LBS CAbMR and (6) Support the source of learning and adequate teacher understanding of representations in chemistry. The support system of learning models in the form of RPP and LKS CAbMR as well as the test of creative thinking skills based on multiple representations is declared to have the feasibility to be used according to the expert. The test has a reliability value in the very high category. Questions consist of 24 items, including three items representing macroscopic representations, four representing microscopic representations, 11 representing symbolic representations and six representing mathematical representations. High school students who take part in learning about reaction rates with the CAbMR model in general have the ability to think creatively in the category quite well from multiple representation reviews

Kata Kunci: *concept attainment, multiple chemical representations, creative thinking, learning models*