

Development of the Critical and Creative Thinking Tests Model Through Approach Item Response Theory (IRT) to Students Department of Electrical Engineering Education Yogyakarta State University

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ABSTRACT

This study aims to (1) develop a model of critical thinking and creative thinking skills for Electrical Engineering Department students (JPTE) FT UNY through Item Response Theory (IRT) approach, (2) to know students' attitude toward critical and creative based test model, (3) to know the ability of students in critical and creative thinking after tested with test model oriented on critical and creative thinking, (4) to know whether there is difference of critical and creative thinking ability between student of PTE Study Program and PTM. This type of research uses development research. Subjects in this study were all JPTE students. Place of study at JPTE. The research respondents are the undergraduate students (S1) of Electrical Engineering Study Program (PTE) and Mechatronics Engineering Education Program (PTM) force year 2014. The instruments used in this research include the question of critical thinking and creative students, the scale of attitudes used to identify students' attitudes toward critical and creative thinking skills test models. Data analysis using quantitative descriptive analysis technique through IRT for test item analysis and capability estimation and t-test to know difference of attitude and ability of critical thinking and creative of student of PTE Prodi with student of PTM Study Program. The results obtained from the research are: (1) standardized critical thinking and creative thinking test model with IRT analysis, (2) Student attitude response to critical thinking and creative thinking test is good with 77% percentage, (3) Critical thinking ability and creative students of JPTE quite well with the number of response patterns 27 of 86 test participants, (4) There is no significant

Kata Kunci: Test Model, Critical Thinking Ability, Creative Thinking Ability, Response Item Theory, Student Attitude.