

## Characteristics and Item Parameters Fitness on Chemistry Teacher-Made Test Instrument

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**Abstract :** This study aimed to: (1) describe the characteristics of teacher-made test instrument used to measure the ability of students' chemistry, and (2) identify the presence of the compability difficulty level set by teachers to difficulty level by empirical results. Based on these objectives, this study was a descriptive research. The analysis in this study used the Rasch model and Chi-square statistics. Analysis using Rasch Model was based on the response patterns of high school students to the teacher-made test instrument on chemistry subject Academic Year 2015/2016 in the Yogyakarta. The sample of this research were 358 students taken by cluster random sampling technique. The analysis showed that: (1) a teacher-made tests instrument has a medium on the mean difficulty level. This instrument is capable to measure the ability on the interval of  $-0,259 \leq \theta \leq 0,659$  logit. Maximum Test Information Function obtained at 18.187 on the ability  $+0,2$  logit; (2) 100% items categorized either as easy or difficult by rasch model is match with the teachers' judgment; while 37 items are categorized according to rasch model which 8.10% and 10.81% categorized as easy and difficult items respectively according to the teachers, the others are medium categorized. Overall, the distribution of the level of difficulty formulated by the teachers has the distinction (not match) to the level of difficulty based on the empirical results.

**Keywords :** chemistry, items parameter fitness, Rasch model, teacher-made test

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