The Development and Application of Evaluating Standards for Creative Problem Solving Items

Cho, Mi-Young

Ewha Womans University, Korea

Abstract

The purpose of this study was to develop evaluating standards for creative problem solving items and to assess creative problem solving items on Korea science text books (17kinds). Through the intensive literature review with professional panel who is expert in science education, the categories of assessment for creative problem solving items were elicited. We developed categories based on creative problem solving model (Isakse & Treffinger, 1991; Treffinger & Isakse, 1992).

The standards for evaluating creating problem solving items consisted with three categories and seven sub-categories. The type of standards was developed as checklist assessment. Three categories were (1) Understanding the challenge, (2) Generating idea (3) Developing solutions. Each sub-category included three to six evaluating factors.

In order to applicant the developed standards, we conducted item analysis on 181 text book items which were selected by panel members. Through science text book analysis, we found that most of text book items were emphasized on 'Understanding the challenging' category than 'Generating idea' and 'Developing solutions' categories.

In concluding, we recommended followings: (1) Science teachers should improve their ability to develop items for enhancing students' creative problem solving skill. (2) Teachers and researchers should consider all of three categories of standards for evaluating creating problem solving item when they developed new items for enhancing students' creative problem solving skill.