

## INVESTIGATING THE RELATIONSHIP BETWEEN PRESERVICE SCIENCE TEACHERS' ASSESSMENT LITERACY AND THEIR COGNITIVE STYLES

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### Abstract

The aim of this study was to determine whether there is a relationship between the assessment literacy level of preservice science teachers and their Field Dependent or Field Independent (FD/FI) cognitive styles. The sample consisted of 149 preservice science teachers. Assessment Literacy Inventory (ALI) and Group Embedded Figures Test (GEFT) were administered to assess the preservice science teachers' level of assessment literacy and the FD/FI tendency. The data collected were analyzed by using SPSS 21 program. Correlational analysis, descriptive analysis and one-way variance analysis (ANOVA) techniques were used to analyze the data. In general, preservice science teachers' assessment literacy levels were found to be low. Also results showed that there is a significant relationship between preservice science teachers' level of assessment literacy and their cognitive style. The results of ANOVA indicated that FD and FI preservice science teachers' mean assessment literacy scores differ in favor of FI preservice science teachers. In addition, ANOVA was used to analyze mean scores of each subscale of ALI based upon cognitive styles. In terms of subscales 1, 2, 3, 4, 5 and 6 of ALI, there were significant differences between FD and FI preservice science teachers' assessment literacy mean scores in favor of FI. The results also showed that the teacher candidates fail most in the dimension of assessment literacy named "Communicating Assessment Results with Students, Parents and Other Educators". Moreover, results revealed that preservice science teachers need more practice to be educated and sustained professional development on assessment literacy. Future research should be conducted to explore how assessment literacy courses can be designed so that both field dependent and independent preservice teachers learn from the courses at equal standards.

**Keywords:** Assessment, Assessment Literacy, Individual Differences, Cognitive Styles, Preservice Science Teachers.