

EXPLORATORY FACTOR ANALYSIS STUDY FOR THE SCALE OF HIGH SCHOOL STUDENTS' ATTITUDES TOWARDS CHEMISTRY

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ABSTRACT

It is important to develop students' positive attitudes chemistry lessons in school because research has suggested that attitudes are linked with academic achievement. Therefore, how to evaluate the attitudes is an important topic in education. The purpose of this study was to develop a Likert-type scale that could measure high school students' attitudes toward chemistry. In order to develop this scale, it was benefited from some studies in the literature and expert ideas. After adjustments based on expert recommendations, a scale which is consisted of 25 items was developed and applied to 200 high school students. In order to determine the construct validity, exploratory factor analysis was performed. In this way, a final scale consists of 20 items. The factor analysis results indicated that the scale has two factors explaining 45.9% of the total variance. In addition, the scale' reliability coefficient (Cronbach' alpha) was found as 0.89. Obtained results showed that the scale which is reliable and valid measurement tool can be used to determine the attitudes of secondary school students to chemistry.

Key Words: Chemistry education, attitude scale, validity, reliability.