

THE RELATIONSHIP BETWEEN 7th AND 8th GRADE STUDENTS' CONCEPTUAL LEARNING AND MATHEMATICS SELF-EFFICACY LEVELS OF SUBJECT OF "ALGEBRAIC EXPRESSIONS AND EQUATIONS"

Assoc. Prof. Dr. Sare ŞENGÜL
Marmara University Atatürk Education Faculty
İstanbul- TURKEY

Assist. Prof. Dr. Yasemin KABA
Kocaeli University Education Faculty
Kocaeli- TURKEY

Prof. Dr. Yusuf AYDIN
İstanbul Commerce University
Faculty of Arts and Sciences
İstanbul- TURKEY

ABSTRACT

The aim of this research is to determine the correlation between 7th and 8th grade students' conceptual learning and mathematics self-efficacy in 'Algebraic Expressions and Equations' subject. The study was carried out in a public school on the Anatolian side of the city of İstanbul in 2011-2012 academic years. The study was conducted with 97 students in total and 47 of them are 8th grade and 50 of them are 7th grade students. The research model of the study is screening model. The data of the study was collected through 'Conceptual Understanding Test regarding Algebraic Expressions and Equations [CUTAEE]' and 'Self-efficacy Perceptions towards Mathematics Scale [SPMS]'. The data of the study was analyzed by using qualitative and quantitative methods. Frequency (f) and percentages (%) were used for quantitative methods. The data obtained through CUTAEE was evaluated with content analysis. According to the obtained findings, it was determined that there was a significant and positive correlation between the mathematics self-efficacy levels of the students and the concepts regarding 'Algebraic Expressions and Equations' subject of the 7th and 8th grade students. Besides, while a significant difference was found in favor of 8th grade students in terms of students' conceptual understanding, there was not a significant difference between the mathematics self-efficacy levels of the 8th students. In terms of genders, it was determined that there was a positive and significant correlation in favor of male students between both mathematics self-efficacy and conceptual understanding levels of 7th and 8th grade students. The suggestions were made in accordance with the obtained findings.

Keywords: Conceptual learning, mathematics self-efficacy, algebraic expressions, equations.