

PRE-SERVICE TEACHERS' VIEWS ON "USING MATHEMATICS IN SCIENCE EDUCATION": A METAPHOR ANALYSIS STUDY

Yrd. Doç. Dr. Yasemin Deringöl
İstanbul Üniversitesi
H.A.Y.E.F, İlköğretim Bölümü
Sınıf Öğretmenliği ABD
yderingl@gmail.com

Doç. Dr. Dilek Ç. Gülten
İstanbul Üniversitesi
H.A.Y.E.F, İlköğretim Bölümü
Matematik Eğitimi ABD
dilek.cgulten@gmail.com

Abstract

The courses of science and mathematics are closely related and they depend on each other to realize an effective learning. In this context, science teachers are known to use mathematics frequently as a means in their courses. Therefore, it is of great importance to explore how prospective science teachers perceive using mathematics in science education. Considering this fact, this research study aims to explore pre-service science teachers' mental images regarding the concept of "using mathematics in science education" through the metaphor technique. For this purpose, the study was conducted with the pre-service teachers studying science education in a faculty of education in the city of İstanbul in the academic year 204-2015. Qualitative and quantitative analysis techniques were used for the data analysis. The metaphors and motives developed by the study group were analyzed and the conceptual categories were decided on considering the common features of the metaphors. As a result, 30 metaphors and 6 categories were determined regarding the concept of "using mathematics in science education". The research findings were discussed in line with the literature and some suggestions were presented.

Keywords: Pre-service science teacher, mathematics, using mathematics in science, metaphor.