

THE CONCEPTS OF SOUNDS OF SECONDARY SCHOOL STUDENTS INVESTIGATION BY CLASS LEVEL OF USE FREQUENCY

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Abstract

The purpose of this study is to find out the concepts used by secondary school students about the subject of sound and to examine the changes in the frequencies students used these concepts in terms of their grades. The study group consisted of four secondary schools in Samsun during the 2015-2016 academic year. One of these schools was in the city center; one was a private school in the city center and the other two were in two different towns. In the study, the students were asked to write down the information they had about the characteristics of sound. The data were assessed through content analysis, which is one of the qualitative research methods. As well as the correct answers of students, answers with misconceptions or errors were also found, categorized and analyzed. As a result of the analysis, the percentages of the wrong answers of students were determined according to their frequency of use. When the results were analyzed and compared with the attainments of 2015-2016 academic year science lesson, it was concluded that the number of concepts in the curricula of 5th and 6th grades were too much and thus students had high frequencies of using concepts about sound and since the subject of sound was not in the curriculum of 7th grade, students' frequencies of using concepts about sound decreased in 7th grade. It was also concluded that since the subject of sound was taught in detail at 8th grade, the frequency of using concepts about sound decreased positively at 8th grade. Misconceptions about sound were found at 8th grade the most. since the subject of sound was not in the curriculum of 7th grade, students' frequencies of using concepts about sound decreased in 7th grade.

Keywords: Science education, middle school students, sound, sound concepts, misconception.