

The Analyzing of TIMSS 2011 Turkey and Singapore Results In Mathematics Program

Fatma ERDOĞAN, Hülya HAMURCU, Ayşe YEŞİLOĞLU

Summary

INTRODUCTION

TIMSS (Trends in International Mathematics and Science Study) is an international exam carried out every four years. The science and mathematics achievement among the countries is evaluated depending on plenty of variables according to this test. Furthermore, TIMSS reveals differences between national education systems. In this study, primary school mathematics curriculum of countries was analyzed on basis of the 2011 TIMSS results. In the context of research, primary mathematics curriculums were examined for both countries. The results of the 8th grade are considered in order to reveal the countries' development levels and differences. For the first time, Turkey participated in TIMSS 2011 for the fourth grade. Thus, in the context of research 2011 TIMSS has been selected. The reason for choosing Singapore as the second country is that Singapore has perfect performance attended almost all international exams in mathematics and takes place in the top three countries. The fact that it was thought that this success is not random. Thus, the primary mathematics curriculums applied in Singapore was examined according to the learning field.

METHOD

Research was conducted using document analysis technique, one of the qualitative research methods. In this study, primary school mathematics curriculum accessed from the official website of Turkey and Singapore's ministry of education have been examined.

FINDINGS

In the light of the findings, the number of topics have been more than number of sub-topics in primary school mathematics curriculum of Singapore. However, the study also demonstrated that both Singapore and Turkey apply four hours per week for mathematics in primary school courses.

On the other hand, when the percentage of math courses in weekly course was analyzed, it was found that this four hours create 22% of program in Singapore and 13.3% of program in Turkey. Another research result shows that the learning fields in Turkey primary mathematics program is quite convenient TIMSS content areas. Also geometric shapes and measuring learning field has been relatively identified one of the lowest learning fields because of the mean score obtained in general.

DISCUSSION

In this study, it was aimed to comparatively investigate the learning field in Singapore and Turkey's primary school mathematics program. When the learning fields in both the country's primary school mathematics curriculum were compared; it was determined that both the country's primary school mathematics curriculum have similar content in general.

Turkey has achieved the lowest average score on geometric shapes and measuring learning field and in the reasoning process at fourth graders level. The geometric shapes and measuring learning field has been relatively one of the areas that observed of the lowest success among the countries (Oral & McGivney, 2011).

This research has shown that in the primary school weekly lesson program of Turkey and Singapore were allocated four hours for mathematics in both countries. However, this four hours create 22% of program in Singapore and 13.3% of program in Turkey. The mathematics courses hours in the primary school weekly lesson program be increased to improve the academic achievement and more efficient learning

SUGGESTIONS

Turkey, has achieved the lowest average score on geometric shapes and measuring learning field and in the reasoning process at fourth graders level. Thus, in this research, it is proposed that geometric shapes and measuring learning field and activities according to reasoning process is increased in the primary school mathematics curriculum. It is suggested that mathematics courses hours are increased when the primary school weekly lesson program of Turkey and Singapore were analyzed.