

Teachers' Views about Elementary Education Mathematics Curriculum and Its Application

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Abstract

Teacher's conscious and accurate use of the elementary mathematics teaching program, can directly contribute to the quality of the education that students receive. In this context, this case study aimed to determine the views of the teachers towards the elementary education mathematics curriculum and its application. The study was carried out on a total of 66 elementary education mathematics teachers in the city centre of Erzurum. The results of the study indicated that although elementary education mathematics teaching program was prepared with a new understanding, it did not reach achieve the desired level when implemented by the teachers. The problem lay in the gap between the planning of the teaching process and the application in the learning environment.

Keywords: Constructivist approach, primary education mathematics curriculum, primary mathematics teachers

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Extended Summary

Purpose

Curriculums developed in line with the constructivist teaching concept were started to be implemented in elementary schools during 2005-06 school year. However, teachers have substantial roles in applying the mathematics program introduced. As a result, the success of these programs can only be achieved taking into consideration the views and opinions of the teachers. In this context, it can be said that teachers' views and opinions on the mathematics curriculum having been applied to 6th, 7th and 8th grade elementary students since 2005 were matured, and challenges encountered were became more apparent. Defining the views of teachers, who are the focus points of teaching activities, regarding the framework and implementation of the program, and identifying the challenges they face may assist in the studies directed to eliminate such challenges. The aim of the research is to define the elementary mathematics teachers' views on mathematics curriculum applied to 6th, 7th and 8th grade elementary students, and on the application procedure of this program.

Method

This research is based on case study model. Target population of the study consists of 141 elementary mathematics teachers serving in Erzurum province, central district in 2009-10 school year. Total 66 elementary teachers (39 male and 27 female) selected via simple random sampling are the sampling of the research. 4 items were devoted to the teachers' preparation for the class, 14 items were devoted to teaching process, 2 items were devoted to assessment, and 3 items were devoted to defining general opinions of teachers on constructivism in the data collection tool developed by the researchers. First 23 items were developed using 5-point Likert scale. In the last section, an open-ended question such as "What kind of problems do you face while applying Elementary Mathematics Curriculum? Please state your opinion in written, if you face any problems." was placed to ensure that teachers state the challenges they face during the application period of the program. Data collection tool is composed of 24 items. Answer codes to be used in answering each of the items in the data collection tool is between 1 and 5 points. In this assessment "5 points mean *always*, 4 points mean *frequently*, 3 points mean *occasionally*, 2 points mean *rarely* and 1 point means *never*". Answers to the open-ended question

in the data collection tool were subjected to content analysis and answers, which are similar in terms of meaning, were collected under same categories and five different categories were created.

Results

Teachers pointed the item "I decide, in the names of my students, the activities to be performed while learning the subject" as 4, *frequently*; and the item "I pave the way to ensure that my students learn the subjects from the sources covering raw information regarding real life instead of from course books" were pointed as 3, *occasionally*. They also pointed their views as 5 *always* and 4 *frequently* to the items "I teach my subject using a method that I think can be understood by the class in general", "I teach new subjects as my students have no background information on such new subjects", "When the subject is not comprehended by the class through the method I used, I explain the subject once and again using similar methods", "I cover the mathematical principles and generalizations verbally, until they are recognized by my students", "I give correct mathematical information to my students in the class as the information my students get individually may result in misinformation and imperfect knowledge on the subject" and "When my students give incorrect answers to the problems, I solve the problems myself". Arithmetic average of the points granted to the items "Written examinations, held to assess the students, are sufficient criteria for me" and "I take the result into consideration in testing and assessment not the process as the correct answer bears importance in mathematics" is 2, *rarely*. In the analysis of the open-ended question, it was determined that teachers face some challenges during the teaching periods under five categories namely *time, program, activities, tools-instruments and materials* as well as *the environmental factors*.

Discussion and Conclusion

The results of the research revealed that even though this constructivist approach-based program was developed using a new perspective, it does not achieve its objective satisfactorily in reflecting this program to curriculum by teachers. The fact that teachers are highly agree with the items devoted to verbal expression evokes the class environments where traditional teaching approach dominates, and gives rise to the thought that the reason behind this problem is teachers' not interiorizing the program sufficiently. Teachers should internalize the program at the highest level and should construct themselves as they construct their students for the success of this program started to be applied with great expectations. To reach this goal, teachers should be informed about the program; and incentive studies and researches devoted to teachers should be done. Necessary changes should be brought and the program should be developed upon receiving feedbacks from the teachers regarding the program. Skills expected to be performed by the teachers for the implementation of the program should be offered to the pre-service teachers, who are to enter into the teaching process actively in the near future, within the framework of undergraduate program.

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