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TITLE: TEACHERS' OPINIONS ON FIRST GRADE MATHEMATICS PROGRAM IN ELEMENTARY EDUCATION

ABSTRACT

The main aim of this study is the evaluation of first grade mathematics program in elementary education based on the teachers' opinions. In this sense, teachers' opinions have been brought forward about first grade mathematics course program in elementary schools in the dimensions of learning outcomes, learning sub-fields, learning-teaching process and assessment-evaluation. Moreover it was aimed to investigate whether there were any significant differences among teachers' opinions and some variables such as their gender, professional experience, education level, age, and in-service training situation.

This study which is predicated based on the teachers' opinions on first grade mathematics program has been structured as a mixed research model including both qualitative and quantitative research methods. Through using quantitative method the number of participants have been kept high and their opinions questioned through the scale whether they agree or disagree about the given statements and through using qualitative method the participants' opinions are analyzed in detail. Then these two models have been brought together to form a comprehensive model on teachers' evaluation about the program. In this study, to be able to determine teachers' opinions about the program, who taught first graders in an elementary school, while collecting quantitative data a scale which is developed by the author is used and analysis and interpretation of data have been done congruent to the quantitative model. Using a similar approach while collecting qualitative data an interview form which is developed by the author is used and face to face and one on one interviews have been held with the participants. The analysis and interpretation of qualitative data are done following qualitative research analysis method.

The reliability and validity study of "Elementary Mathematics Program Teacher Opinion Scale (EMPTOS)" was conducted. Scale data was gathered from 464 teachers working as elementary school teachers in İstanbul. Item analysis, factor analysis and the reliability analysis were conducted in the process of the development of the scale. The 103 items of the Scale were subjected to principal component analysis (PCA) using SPSS. Prior to performing PCA the suitability of data for factor analysis was assessed. Inspection of the correlation

matrix revealed the presence of many coefficients of .3 and above.). To be able to determine the groups that are highly coherent with each other in teachers' opinion scale for mathematics program in elementary education, 0.50 is taken as base factor in factor analysis, the items under this base factor are removed and finally a scale with 78 items is formed. The Kaiser-Meyer-Okliv value was 0.914, exceeding the recommended value of .6 (Kaiser 1974) and the Barlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($\chi^2= 61547.01$; $p=.000$)., supporting the factorability of the correlation matrix. Principal component analysis revealed a structure with items clustered into one factor. The one factor solution explained 44.66 per cent of the variance. In the following reliability analysis, the reliability coefficient of the scale is found as 0.98. To compare the mean scores and define difference based on the total item means between high-low-27-percent group, independent t-test was calculated and total item correlations were found between 7861 and .5086 and result was found significant ($p<0.001$). This result interpreted as a sign of 78 item-scale's criterion-related validity. The results of the study indicate that the scale has good psychometric properties

For the quantitative dimension of this study to gather data EMPTOS is used and this study is completed with the teachers who taught first grade using the new program that is put in place in the year of 2005. For this purpose the scale is subjected to 380 elementary school teachers who taught in downtown area of the city of Denizli during 2009–2010 academic year. The collected quantitative data is analyzed using the proper analysis techniques provided by SPSS software.

For the qualitative dimension of this study while gathering teachers' opinions the open-ended forms were handed out and semi-structured interviews were held. For this purpose 83 teachers were given open ended forms, who taught in downtown area of the city of Denizli during 2009–2010 academic year and they are asked to articulate on their opinions of the program. Moreover semi structured interviews are held with 10 teachers who was seen as the most reflective ones and gave most detailed criticism towards the program among these 83 teachers. Interviews were collected face to face and one on one in the schools where these teachers work. The questions were posed by the author and detailed answers were sought.

At the end of the quantitative analysis, although teachers' opinion scale for mathematics program in elementary school that is developed and used in this study indicates a structure with one factor, learning outcomes, learning sub-fields, learning-teaching process and assessment-evaluation data which are meshed in the scale within the program evaluation criteria are analyzed one by one and teachers' opinions in every dimension are tried to be

revealed. When the general averages in the scale ($\bar{x}=275,1$) are looked into, teachers' opinions on first grade mathematics program are positive. In addition, there could not be found any difference among the teachers' opinions for first grade mathematics course program in elementary education about learning outcomes, learning sub-fields, learning-teaching process and assessment-evaluation dimensions in terms of gender, professional experience, education level, age, and in-service training situation

In the categories created based on the results obtained using qualitative analysis, the participating teachers opinions are obtained on first grade mathematics program's strong sides, first grade mathematics program's weak sides, first grade mathematics program's flaws, first grade mathematics program's applicability, their opinions about first grade mathematics program's learning fields, their opinions as to what to add to the program or what to remove from the program, the program's effectiveness, their opinions as to how well they follow the program and their beliefs on the program's success.

The most significant results from the qualitative aspect of the study are found as follows; there is a need to organize program in respect to students' individual differences, programs seem to put overwork on teachers shoulders, allocated time for mathematics courses must be increased, materials and equipment are not sufficient at schools, it is hard to utilize the program in classrooms which have high student populations, the program needs fully equipped schools, assessment and evaluation section needs to be facilitated to get easily applied. Some results about specific topics in mathematics are also illustrated in the study.

KEYWORDS

Elementary Mathematics Curriculum, Curriculum Evaluation, Teachers' Opinions, Program Evaluation Scale, 1st grade Program