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## The views of the teachers taking in-service training about alternative measurement and evaluation techniques: The sample of primary school teachers

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### Abstract

The aim of this study is to find out the views of the teachers who took in-service training, about alternative measurement and evaluation techniques. Teachers have been interviewed using five open-ended questions. Descriptive statistics has been used in the discussion of the findings. According to the findings, teachers aim to evaluate their students using cognitive-emotional and psychomotor perspectives and help them gain the habits of research and responsibility. Moreover, they have noted that while using the alternative measurement-evaluation techniques, they have faced problems such as indifferent parents, lack of time and the over-crowded classes.

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*Keywords:* Alternative measurement and evaluation techniques, in-service training, teachers' views, measurement, evaluation

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### 1. Introduction

The need that have been recently appeared all over the world to carry out teaching process together with the modern learning-teaching approaches has also made it necessary to change the current teaching curricula in Turkey (Bayrak & Erden, 2007). It is also observed that in accordance with the changes in the curricula, the measurement-evaluation practices undergo a change. For this reason, alternative measurement and evaluation practices based on process have replaced the traditional measurement and evaluation techniques designed for the aims determined (MEB, 2004).

In the traditional measurement and evaluation techniques that have been prepared according the behaviorist learning approach, multiple-choice tests usually based on the criteria are used. These measurement tools based on the behaviorist learning approach aim to measure students' knowledge in a limited time, do not provide the opportunity for students to be aware of their own success or shortage of knowledge and do not provide enough information about the learning schemata that students form (Shepard, 1989; Mumme, 1990; Romberg, 1993; Baki & Birgin, 2004). These kinds of measurement approaches only measure the simple knowledge and skills and prove insufficient to examine the higher cognitive skills. Instead of these approaches, the alternative measurement and

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evaluation approaches in the 2004 curricula that have been prepared based on the constructive approach are individual processes that have been enriched through activities such as one's debate, collaborative working and in depth-analysis. Therefore, it is not sufficient to evaluate a student only taking into consideration his/her answers to the questions in multiple-choice tests given in a limited time/and it is necessary to consider his/her individual or in-group performance during the learning process. (Lustig, 1996; Dwyer, 1998; Ryan, 1998; Baki & Birgin, 2004).

The individuals that will carry out the teaching curricula that require fundamental changes in measurement and evaluation are teachers. The teachers that will carry out the curricula are expected to have the necessary qualifications required by the new curricula. However, it is known that the transition from the traditional measurement and evaluation techniques to the alternative ones depends on the process and it is necessary for individuals to change their way of understanding. (Anderson, 1998; Çoruhlu, Nas & Çepni, 2008). Moreover, as stated by Fullan and Millers (1992), in order to achieve successful changes, it is of utmost importance that there be increases in the number of leading individuals and help individuals understand that change is desirable and good in order to overcome the resistance to the change. It has been noted by several studies that in-service training sessions must be provided, which will assist teachers in having a better understanding of alternative measurement and evaluation techniques and in their professional development (Neukom, 2000; Zimbicki, 2007; Roach, Elliott & Berndt, 2007; Şenel, 2008; Çorulu, Nas & Çepni, 2008).

According to Graham (2005), how teachers can improve their knowledge and skills in measurement and evaluation practices is one of the main problems in the current education world. In this perspective, this study aims to find out which and for what purposes alternative measurement and evaluation techniques are used by primary school teachers who have had in-service training in alternative measurement and evaluation techniques; which problems they face while using these techniques and whether the in-service training has been effective or not. As there is little research focusing on determining the views of teachers in different fields who had in-service training towards alternative measurement and evaluation techniques following the training, this study will play an important role in determining the effectiveness of in-service trainings.

## **2. Method**

### *2.1. Research Design*

This study is a qualitative study that aims to figure out the views of primary school teachers about the alternative measurement and evaluation techniques. In qualitative study researchers investigate the subject or subjects in their natural environment and struggle to give meanings to and interpret the facts that the participants express (Denzin & Lincoln, 1998). In this study, interview technique, one of the qualitative research techniques, has been used. Interview technique is a very powerful technique which is commonly used to present participants' views, experiences, feelings and perceptions (Bogdan & Biklen, 1992).

### *2.2. Population and Sample*

The population of the study includes the primary school teachers that work in Turkey during the 2010-2011 teaching year. The sample of the study is composed of class, science and technology, mathematics, social sciences, Turkish and English teachers, 9 teachers in each subject and in total 54 teachers. Of the participants in the study, 59, 53% are female, 40, 47% are male teachers. 79, 53% are graduates of faculty of education, while 20, 47% are graduates of faculty of arts and sciences. It is seen that of the teachers in the study, 27, 44% (0-5); 40, 93% (6 - 10); 31, 63% (11 - 15) have years of experience and are still working. Considering their age, of the teachers, 10, 7% are between 20 and 25; 29, 77% are between 26 and 30 and 37, 21% are between 31 and 35.

### 2.3. Data Collection Instruments

The data of the study have been collected through semi-structured interviews. In the beginning, the teachers who had in-service training in the alternative measurement and evaluation techniques have been interviewed. Using the data collected during the interviews, an interview form composed of 5 open-ended questions and the list of teachers that will participate in the study have been created. In order to check and ensure the validity of the interview form, a measurement-evaluation specialist and one teacher from each subjects- class, science and technology, mathematic, social sciences, English and Turkish- have been interviewed. In accordance with these views, necessary changes have been made and the final version of the interview form has been created.

### 2.4. Analysis of the Data

In the analysis of the data, descriptive analysis, one of the qualitative analysis techniques, has been used. While using the descriptive analysis, the responses provided by the teachers in the study have been directly used. The data collected through the responses provided by the teachers have been subjected to analysis with the help of NVivo 8. The responses provided by the teachers have been categorized into the specific themes, taking each question into consideration and the sentences/words that have been provided by the teachers regarding which alternative measurement and evaluation techniques are used, the reasons and the problems that they have been coded into the related themes. The findings of the study have been presented providing the direct statements of the teachers during the interviews.

## 3. Result and Discussion

In this section, the findings have been interpreted using the interviews made with the teachers who had in-service training.

### 3.1. The findings related to the alternative measurement and evaluation techniques that teachers use

In Table 1, the alternative measurement and evaluation techniques have been presented according to the subjects that teachers teach.

Table 1. The alternative measurement and evaluation techniques that the teachers use

|                           | A |       | B |      | C |       | D |       | E |       | F |       | T  |       |
|---------------------------|---|-------|---|------|---|-------|---|-------|---|-------|---|-------|----|-------|
|                           | f | %     | f | %    | f | %     | f | %     | f | %     | f | %     | f  | %     |
| Drama                     | 0 | 0     | 3 | 5    | 0 | 0     | 3 | 5,45  | 2 | 3,57  | 4 | 7,14  | 12 | 3,81  |
| Demonstration             | 0 | 0     | 4 | 6,67 | 0 | 0     | 2 | 3,64  | 1 | 1,79  | 3 | 5,36  | 10 | 3,17  |
| Group and peer evaluation | 0 | 0     | 4 | 6,67 | 2 | 6,9   | 2 | 3,64  | 2 | 3,57  | 1 | 1,79  | 11 | 3,49  |
| Map of concepts           | 9 | 15,25 | 5 | 8,33 | 0 | 0     | 4 | 7,27  | 6 | 10,71 | 3 | 5,36  | 27 | 8,57  |
| Matching of words         | 5 | 8,47  | 5 | 8,33 | 0 | 0     | 4 | 7,27  | 5 | 8,93  | 7 | 12,5  | 26 | 8,25  |
| Performance evaluation    | 8 | 13,56 | 5 | 8,33 | 9 | 31,03 | 9 | 16,36 | 9 | 16,07 | 8 | 14,29 | 48 | 15,24 |
| Portfolio                 | 9 | 15,25 | 9 | 15   | 9 | 31,03 | 9 | 16,36 | 9 | 16,07 | 9 | 16,07 | 54 | 17,14 |
| Poster                    | 8 | 13,56 | 6 | 10   | 0 | 0     | 6 | 10,91 | 6 | 10,71 | 5 | 8,93  | 31 | 9,84  |
| Project                   | 8 | 13,56 | 5 | 8,33 | 6 | 20,69 | 5 | 9,09  | 5 | 8,93  | 4 | 7,14  | 33 | 10,48 |
| Rubrics                   | 0 | 0     | 3 | 5    | 0 | 0     | 0 | 0     | 1 | 1,79  | 0 | 0     | 4  | 1,27  |
| Branched tree             | 6 | 10,17 | 6 | 10   | 1 | 3,45  | 6 | 10,91 | 6 | 10,71 | 3 | 5,36  | 28 | 8,89  |
| Structured grid           | 6 | 10,17 | 5 | 8,33 | 2 | 6,9   | 5 | 9,09  | 4 | 7,14  | 9 | 16,07 | 31 | 9,84  |

“A: Science and Technology Teachers; B: Class Teachers; C: Mathematics Teachers; D: Turkish Teachers; E: Social Sciences Teachers; F: English Teachers; T: Total

Considering the responses provided for the measurement and evaluation techniques that the teachers use, it has been observed that of the science and technology teachers, 15,25% use concept mapping and portfolio; 13,56% use project, performance evaluation and poster. This finding is in alignment with the study conducted by Usta, Dikyol & İnce (2010).

Considering the field of studies in Table 1, it is seen that 15% of the class teachers use portfolio; 31, 03% of the mathematics teachers use performance evaluation and portfolio; 16,36% of the Turkish teachers use performance evaluation and portfolio; 16,07% of the social sciences teachers use performance evaluation and portfolio; and 16,07% of the English teachers use structured grid and portfolio. It is observed that the teachers of the different subjects use different techniques. The reason might be attributed to the fact that the topics in different subjects require either quantitative or verbal skills and that teachers feel safe in different techniques.

In general, 17, 14% of the teachers mostly use portfolio and 15, 24% use performance evaluation techniques. However, it is one of the important findings that the portfolio technique which is among the alternative measurement and evaluation techniques is being used in all the subjects. In the study of Usta, Dikyol & İnce (2010), the alternative measurement and evaluation techniques that are used by the social sciences and the science and technology teachers have been compared and it has been found out that the portfolio technique has been highly used in both of these subjects.

### 3.2. Findings related to the reasons why teachers use the alternative measurement and evaluation techniques

In Table 2, the reasons why teachers use the alternative measurement and evaluation techniques in general have been presented according to the subjects.

Table 2. The reasons why teachers use the alternative measurement and evaluation techniques

|                                                                                | A |       | B |       | C |       | D |       | E |       | F |       | T  |       |
|--------------------------------------------------------------------------------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|----|-------|
|                                                                                | f | %     | f | %     | f | %     | f | %     | f | %     | f | %     | f  | %     |
| It improves independent thinking                                               | 6 | 8,82  | 6 | 8,22  | 4 | 7,02  | 7 | 11,29 | 5 | 8,47  | 5 | 8,33  | 33 | 8,71  |
| It creates interest and desire                                                 | 7 | 10,29 | 7 | 9,59  | 4 | 7,02  | 5 | 8,06  | 4 | 6,78  | 3 | 5     | 30 | 7,92  |
| It enhances responsibility                                                     | 8 | 11,76 | 9 | 12,33 | 5 | 8,77  | 6 | 9,68  | 7 | 11,86 | 7 | 11,67 | 42 | 11,08 |
| It determines their levels of knowledge, lack of concepts or misunderstandings | 9 | 13,24 | 8 | 10,96 | 6 | 10,53 | 6 | 9,68  | 5 | 8,47  | 3 | 5     | 37 | 9,76  |
| It improves research skills                                                    | 7 | 10,29 | 9 | 12,33 | 7 | 12,28 | 7 | 11,29 | 8 | 13,56 | 8 | 13,33 | 46 | 12,14 |
| It improves cognitive skills                                                   | 7 | 10,29 | 8 | 10,96 | 6 | 10,53 | 4 | 6,45  | 3 | 5,08  | 8 | 13,33 | 36 | 9,5   |
| It considers individual differences                                            | 6 | 8,82  | 8 | 10,96 | 4 | 7,02  | 8 | 12,9  | 6 | 10,17 | 8 | 13,33 | 40 | 10,55 |
| It evaluates in cognitive, emotional and psychomotor skills.                   | 5 | 7,35  | 7 | 9,59  | 9 | 15,79 | 9 | 14,52 | 9 | 15,25 | 9 | 15    | 48 | 12,66 |
| It allows cooperation with parents.                                            | 6 | 8,82  | 6 | 8,22  | 7 | 12,28 | 5 | 8,06  | 6 | 10,17 | 5 | 8,33  | 35 | 9,23  |
| It provides learning by doing-experiencing.                                    | 7 | 10,29 | 5 | 6,85  | 5 | 8,77  | 5 | 8,06  | 6 | 10,17 | 4 | 6,67  | 32 | 8,44  |

"A: Science and Technology Teachers; B: Class Teachers; C: Mathematics Teachers; D: Turkish Teachers; E: Social Sciences Teachers; F: English Teachers; T: In Total"

Looking at the reasons why the teachers in the study use the alternative measurement and evaluation techniques in general, 12,66% of the participants evaluate in terms of cognitive-emotional and psycho motor perspectives; 12,14% state that it improves research skills; 11,08% state that it takes enhances responsibility.

When the aims of the alternative measurement and evaluation techniques are compared, it is seen that teachers use these techniques suitably. This indicates that the in-service trainings are effective. In their study, Çepni & Çoruhlu (2010) analyzed how two teachers that took part in in-service training on the alternative measurement and evaluation techniques used the skills and knowledge that they gained in the teaching and learning environments. In this study, it has been observed that the in-service training has a positive effect on both of these teachers' use of the alternative measurement and evaluation techniques and these teachers willingly used these techniques in their

classrooms. However, Metin & Özmen (2010) state that the determination of the educational needs towards the topics that will be given in-service training beforehand are so important for the in- service training to be effective.

### 3.3. The problems that the teachers face while using the alternative measurement and evaluation techniques

In Table 3, the problems that the teachers face while using the alternative measurement and evaluation techniques are presented according to the subjects

Table 3. The problems that the teachers face while using the alternative measurement and evaluation techniques

|                               | A |       | B |       | C |       | D |       | E |       | F |       | T  |       |
|-------------------------------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|----|-------|
|                               | f | %     | f | %     | f | %     | f | %     | f | %     | f | %     | f  | %     |
| Indifferent parents           | 9 | 19,57 | 8 | 17,78 | 8 | 25,81 | 8 | 22,22 | 9 | 21,43 | 9 | 20,93 | 51 | 20,99 |
| Lack of class time            | 9 | 19,57 | 7 | 15,56 | 6 | 19,35 | 5 | 13,89 | 9 | 21,43 | 9 | 20,93 | 45 | 18,52 |
| High cost                     | 6 | 13,04 | 6 | 13,33 | 3 | 9,68  | 3 | 8,33  | 4 | 9,52  | 4 | 9,3   | 26 | 10,7  |
| Lack of materials             | 6 | 13,04 | 4 | 8,89  | 2 | 6,45  | 3 | 8,33  | 4 | 9,52  | 5 | 11,63 | 24 | 9,88  |
| Students' not being objective | 3 | 6,52  | 6 | 13,33 | 4 | 12,9  | 5 | 13,89 | 3 | 7,14  | 4 | 9,3   | 25 | 10,29 |
| Difficult to prepare scales   | 4 | 8,7   | 5 | 11,11 | 2 | 6,45  | 5 | 13,89 | 4 | 9,52  | 4 | 9,3   | 24 | 9,88  |
| Overcrowded classes           | 9 | 19,57 | 9 | 20    | 6 | 19,35 | 7 | 19,44 | 9 | 21,43 | 8 | 18,6  | 48 | 19,75 |

"A: Science and Technology Teachers; B: Class Teachers; C: Mathematics Teachers; D: Turkish Teachers; E: Social Sciences Teachers; F: English Teachers; T: In Total"

Looking at the teachers' views in general, 20,99% state that they have problems due to the indifferent parents; 19,75% of them state that they have problems due to overcrowded classes and 18,52% of them state that they have problems due to lack of time. Gelbal & Kelecioğlu (2007) stated in their study conducted with 242 class and subject teachers that 40,1% of the teachers face problems due to overcrowded classes, 28,9% due to lack of time and %22,1 due to the lack of support provided by the parents. This finding is in alignment with the finding of Özdemir (2009) that class teachers have difficulty in using the alternative measurement and evaluation techniques due to the overcrowded classes and the lack of time. Moreover, Metin & Demiryürek (2009) interviewed with Turkish teachers about the use of the alternative measurement and evaluation techniques. They stated that Turkish teachers do not have enough information about the use of the alternative measurement and evaluation techniques and those who have knowledge put forward that they lack time and the techniques are costly.

## 4. Conclusion and Suggestions

Planning for change and improvement can help achieve the aim in a short time and in an effective way. A good plan which is made before work can guide what, when, how much and how can be done by the teachers. A planned education is considered to be a very important advantage. Planning in education is to specify and write beforehand which educational activities will be chosen in order to reach the educational and curricular aims, why and how these activities will be done by the students, what kind of contributory and supplementary resources and tools will be used and how the success gained will be evaluated (Demirel, 2002). In this perspective, alternative measurement and evaluation techniques play an important role in increasing the quality and determining the shortages in education. Therefore, teachers that carry out the alternative measurement and evaluation techniques are supposed to have the necessary information about these techniques. According to the results of this study, it is clearly seen that the teachers who had in-service training have the sufficient information about the alternative measurement and evaluation techniques and apply these effectively. Moreover, this indicates that in-service trainings are effective.

As a result, teachers that do not have sufficient information about the alternative measurement and evaluation techniques should be provided training through in-service trainings.

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