

Opinions of the Pre-service Teachers Regarding the Educational Measurement and Evaluation Course

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Abstract: Teachers use the measurement and the evaluation in the decisions they make about students in the classroom. The measurement and evaluation courses are given in line with this need in the college of education. This study was carried out in order to determine the awareness, self-evaluation and expectations of pre-service teachers studying in the science and the social sciences departments about the educational assessment and evaluation course. For this purpose, three open-ended questions were posed to pre-service teachers using a questionnaire. The phenomenology design was used in the study. After the data were encoded in the computer environment, themes were formed by conducting the content analysis by one of the researchers. Later, a second researcher was given these themes and asked to encode the data under these themes. There was an agreement of 75% for the first question, 89% for the second and 87% for the third question between the two researchers. The themes were finalized by discussing the items for which the agreement was not achieved. The pre-service teachers mostly stated that the educational measurement and evaluation course will be beneficial for them in their professional life in "making objective and qualified exams". While 31% of the pre-service teachers considered themselves as adequate in terms of the qualifications gained in this course, 69% of the pre-service teachers considered themselves as inadequate. When the pre-service teachers were asked about how this lesson should be taught in order to be more beneficial for them in their professional life, they mostly (44%) underlined the need for "practice". The results reveal that the most of the pre-service teachers do not consider themselves competent in the measurement and evaluation course, and they think that besides the theoretical knowledge, practice should be given more importance in the measurement and evaluation course.

Keywords: measurement and evaluation, phenomenology, science teachers, social science teachers, theory and practice

Introduction

Teachers use the processes of measurement and evaluation in the decisions they make about students and about their teaching. The fundamental concepts of the educational measurement and the evaluation should be understood by the teachers in order them to arrive decisions regarding the issues they face during their teaching. The courses provided to the pre-service teachers, in this sense, should meet the reality of the education in terms of the practical applications of these concepts (Popham, 2006). The measurement and evaluation course has been seen as a statistics course by some of the undergraduate students (Kottke, 2000) and its contributions to the teaching profession has been underseen by these students. Assessment of student performance is acritical responsibility of a teacher (Mertler, 2003). Teachers spend a high proportion of their time for assessment related activities (Plake, 1993). The concepts taught in the educational measurement and evaluation course is crucial for the teaching profession in order for teachers to successfully deal with the assessment-related issues (Popham, 2006).

The measurement and evaluation is one of the required courses in the college of education in Turkey. The students are being introduced the concepts of the educational measurement and evaluation by means of the course, however, the students' acquisition has yet to be studied from their perspective. Careful consideration is needed to be given to organize the educational measurement and evaluation course content in order to meet the teacher needs. It is responsibility of the course instructor to ensure the quality of the educational measurement and evaluation course. Reflections of the pre-service teachers are one type of the resources for providing and maintaining the quality of the acquisitions in an educational measurement course. This study was conducted in order to determine the educational measurement and evaluation course related awareness, self-evaluation and expectations of the pre-service teachers who study the science and the social sciences. Receiving this information from the pre-service teachers is important for evaluating and planning the content and the teaching of the course. The focus of the study is on pre-service teachers cognitive evaluations and differ from the studies that concentrate on the affective evaluations such as self-concept and self-confidence (e.g., Alkharusi, 2009).

This study was carried out to find answers to the following research questions:

1. How will the educational measurement and evaluation course be beneficial for pre-service teachers in their teaching career?
2. Would pre-service teachers consider themselves as being competent in the educational measurement and evaluation? What are the reasons behind their competency or incompetency?
3. How should the educational and measurement course be taught to make it more beneficial for pre-service teachers' prospective teaching career?

Method

Research design

A qualitative research design was adopted in this study. More specifically, the phenomenology design was used. The phenomenology is an attempt to gain a deeper understanding of some phenomena based on human experiences (Lauer, 1965). The focus of the study was the experiences and expectations of the pre-service teachers regarding the educational measurement and evaluation course. The content analysis was performed for analysis of the data.

Instrument

A questionnaire that consists of three open-ended questions was administered to the pre-service teachers. The questions were written to obtain answers to three research problems that are aimed to be investigated by conducting this study. These questions were: (1) How do you think the educational measurement and evaluation course will be beneficial for you in your teaching career? (2) Would you consider yourself as being competent in the educational measurement and evaluation? What are the reasons behind your competency or incompetency? (3) How should the educational and measurement course be taught to make it more beneficial for your prospective teaching career?

Sample

The questionnaire was administered to the science and the social science pre-service teachers in a university in Turkey. In total, 132 pre-service teachers responded the first question, 106 pre-service teachers responded the second question and 108 pre-service teachers responded the third question. The questionnaire was administered at the end of the semester after the students took the in-class educational and measurement course from the same instructor.

Results and Discussion

Agreement between the coders

Firstly, the data was coded for each question individually. Next, one of the researches determined the themes based on the coded data. These themes were given to another researcher and he was asked to associate each

code with a certain theme. The agreement between the two researchers (i.e., the reliability) was calculated for each question on the questionnaire. The Miles and Huberman (1994) formula was used for this purpose:

$$\frac{\text{number of agreements}}{\text{number of agreements} + \text{number of disagreements}} \times 100.$$

For a reasonable reliability, the agreement between the coders is expected to be at least 80% as a rule of thumb (Miles and Huberman, 1994). There was an agreement of 75% for the first question, 89% for the second and 87% for the third question between the two researchers. The themes were finalized based on the discussion between the researchers.

Results regarding the first research question: “How do you think the educational measurement and evaluation course will be beneficial for you in your teaching career?”

The results regarding the first research question yielded the themes given in Table 1. More than half of the pre-service teachers (i.e., 57%) mentioned that the educational measurement and evaluation course will be beneficial for them for preparing objective and high quality exams. The next majority of the pre-service teachers (i.e., 21%) also declared a statement that was related with the student assessment. Only a very small percentage of the pre-service teachers (2%) mentioned that the educational measurement and evaluation course will be beneficial for them when they need to make decisions regarding instruction.

Table 1: Themes for the first research question

Themes	Frequency
For conducting objective and high quality exams	75
For assessment of the students	28
On professional and personal development	18
In the situations when the measurement process and statistical calculations are required	8
For making decisions regarding the instruction	3
Total	132

Results regarding the first research question: “Would you consider yourself as being competent in the educational measurement and evaluation? What are the reasons behind your competency or incompetency?”

The results regarding the second research question yielded the themes given in Table 2 and in Table 3. Table 2 shows the themes for the pre-service teachers who found themselves competent in the educational measurement and evaluation course and Table 3 shows the themes for the pre-service teachers who find themselves incompetent in the course.

Table 2: Competencies

Themes	Frequency
Competent in knowledge/training gained through the course	21
Attitudes and competencies related to the course	8
Competent in the preparation and evaluation of the exams	4
Total	33

Table 3: Incompetencies

Themes	Frequency
Knowledge gaps	44
Attitudes and behaviors related to the course	13
External factors related to the lesson	12
Lack of practice	4
Total	73

The 20% of the pre-service teachers mentioned they think they are competent in the course because they are competent in the knowledge/training gained through the course. The 42% of the pre-service teachers mentioned that they are incompetent in the course because they have knowledge gaps. In total, the 31% of the pre-service teachers considered themselves to be competent in the educational measurement and the evaluation course, while 69% of them considered themselves as incompetent.

Results regarding the first research question: “How should the educational and measurement course be taught to make it more beneficial for your prospective teaching career?”

The results regarding the third research question provided the themes given in Table 4. Nearly half of the (i.e., 44%) pre-service teachers mentioned that more emphasis should be given on practice during teaching of the educational measurement and evaluation course. Only, very few (i.e., less than 1%) of the pre-service teachers stated that the course should be organized according to the KPSS exam.

Table 4: Themes for the third research question

Themes	Frequency
More emphasis should be on practice	48
Inclusion of examples	18
More enjoyable, material-rich, interactive and student-centered teaching of the course	16
Review of the verbal-numerical weight of the course	10
Adjusting the topics by level of the class	4
Increasing the class hours	4
Clear and understandable explanation of the topics	4
Elimination of information deficiencies	2
Giving assignments	1
Designing the course according to the KPSS exam	1
Total	108

Conclusion

The purpose of this study was to evaluate the instruction of the educational measurement and evaluation course based on pre-service teachers’ experiences and expectations. Three open-ended questions were posed to the pre-service teachers from the fields of social science and science education for this purpose. The results indicated that a majority (69%) of pre-service teachers did not consider themselves as competent in the educational measurement and evaluation. The pre-service teachers mostly mentioned that they have knowledge gaps. Nearly half of the (44%) pre-service teachers stated that more emphasis should be given to the practice for increasing the benefits of the course for their prospective teaching career. The results show that the instruction of the educational measurement and evaluation course should not only be theoretical and should be supported by practice.

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