AN ASSESSMENT OF PROSPECTIVE TEACHERS' PRESENTATION SKILLS

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Abstract

The present study aims to identify the strengths and weaknesses of prospective primary teachers with regard to their presentation skills. To this end, the study was conducted in Celal Bayar University during the academic year 2007–2008. It was carried out in the science teaching course and involves 203 prospective teachers. The applications lasted for four hours a week for a total of 10 weeks. Instructor, peer and self assessment were used as the data collection instruments in the study. The obtained data were analyzed using the SPSS software and item means were calculated for each item. These results indicate a highly strong relationship between the instructor's perceptions and the prospective teachers' self-perceptions about their strengths and weaknesses with regard to presentation skills in science teaching. Thus, there is a striking parallelism between the prospective teachers' strongest and weakest skills according to the instructor's assessment and self-peer assessment scores. On the basis of these results, some suggestions are made about the prospective teachers' presentation skills and their contribution to their professional teaching life.
Keywords: Presentation skills, prospective primary teacher, science and technology teaching.

INTRODUCTION

It is argued that applied courses should be taught along with theoretical courses so that pre-service teachers can have a more efficient undergraduate education, enhance their professional acquisitions, and attain full learning. Similarly, Sisman & Acat (2003) argue that the courses offered in higher education programs provide pre-service teachers with opportunities to know about the profession and to apply the theoretical knowledge they are taught. Furthermore, teachers should first be given applied training to effectively guide in-classroom activities (Kilic & Saruhan, 2006). In this respect, the applications performed by pre-service teachers in the teaching courses or courses on applied teaching they take during their undergraduate education become much more

important. Fulfilling the objectives of these courses will help pre-service teachers overcome major challenges they will face during the first years of their professional careers (Gurses, Bayrak, Yalcin, Acikyildiz & Dogar, 2005). Clearly, pre-service teachers' acquisitions in applied course are highly important for their teaching careers. As is known, individuals' experiences in any field affect their competence in that field and may determine their future behaviors. Given that pre-service teachers' future professional skills are closely associated with their experiences during their undergraduate education or before, their application of theoretically acquired knowledge to real-life experiences will strengthen their efficacy beliefs toward the profession and thus, their teaching skills will be enhanced and they will be able to solve the problems they face more easily. One of the main ways to achieve that is the presentation activities they perform in classroom environment for the application of the theoretical knowledge they learn in courses.

As a way of acquiring professional experience, pre-service teachers are usually asked to make presentations in the applied courses they take during their undergraduate education. These presentations are assessed in different ways; mainly according to traditional and alternative content. A literature review shows that various methods, techniques, and instruments are used to assess presentations and these include self-peer assessment, performance assessment, rubrics, and portfolios. In a study, Erman-Aslanogu & Kutlu (2003) assessed students' presentational behaviors using a rubric. In their study, Hill & Storey (2003) describe the development of an online course that aims to help tertiary students improve their English oral presentation skills. Aldag & Gurpinar (2007) used self-assessment activities besides instructor and peer assessment in a research they conducted to help pre-service teachers acquire effective presentation skills. In another study aiming to improve senior undergraduate students' presentation and self-learning skills, MacAlpine (1999) used student presentation of syllabus material and these presentations were graded by their classmates. Moreover, in Shimura's (2006) study, presentations in English classes were assessed by peers and the instructor, while a study by Grez, Valcke & Berings (2010) investigated the reliability and validity of peer assessments of oral presentation skills. In their study, Magin & Helmore (2001) used peer and teacher summative assessments to evaluate the presentation skills of engineering students and calculated the reliability of these instruments. On another study, Langana, Shuker, Cullen, Penney, Preziosi & Wheater (2008) demonstrated the relationship between the self, peer, and tutor assessment of oral presentations and student characteristics. In their study, Langan et al. (2005) examined the effects of student gender, university affiliation and participation on the peer-assessment of oral presentations. Bagci-Kilic & Cakan (2007), on the other hand, employed peer assessment in their study to assess elementary science teaching skills. Obviously, the literature contains research on evaluating pre-service teachers' presentation skills using self-peer and instructor assessment. However, such studies are fairly limited in Turkey. Moreover, the literature review showed that most studies examine presentation skills according to total scores and found no study examining in which skills pre-service teachers are strong or experience problems. In this context, this large-scale study aimed to determine the strengths and weaknesses of pre-service elementary teachers in presentation skills using peer, self and instructor assessment. The study's problem statement could be formulated as

follows:

- In which items were the students the strongest and weakest in terms of the presentation skills for science teaching?

METHOD

This is a descriptive study carried out in a university in Turkey during the academic year 2007–2008 in order to identify the strengths and weaknesses in presentation skills of pre-service teachers studying in the departments of elementary teacher training and science teacher training. The participants consist of 203 pre-service teachers in five different classes who took the science teaching course during the third year of the elementary teacher training program. The applications involved presenting the participants theoretical knowledge about science teaching in two course sessions out of a total of four sessions a week for 10 weeks in total and performing presentations in the remaining two course sessions. During these applications, the pre-service teachers in the presenting group acted as elementary teachers, while their peers who assessed their presentations acted as if they were elementary fourth and fifth grade students. In the study, the pre-service teachers carried out their presentations in accordance with the teaching method/ approach/ model/ technique (or the theoretical knowledge given in class) taught by the instructor during the previous week. Following this application, the pre-service teachers' presentation skills were evaluated through peer, self and instructor assessment every week. Apparently, instructor, peer and self assessment (assessment form) were used in the study as the data collection instrument. The assessment form is a five-point Likert-type instrument. Evaluation was based on 25 items which were closely related to the 'science teaching abilities' necessary for professional competence and teaching career in the assessment form. The form mainly consists of two sub-criteria containing different aspects of evaluation and the first of these is "science content knowledge and science teaching knowledge", and the second is "teaching-learning process" which is composed of three different categories, including "teaching process", "class management", and "communication". This form was published by the Higher Education Council (1998) and adapted for group assessment by Bagci-Kilic & Cakan (2007) and adapted for self, peer and instructor assessment by Sasmaz-Oren (in press) based on the adapted version of Bagci-Kilic's study. The obtained data were analyzed by SPSS software and item means were computed for each item.

FINDINGS

To deal with the research problem, the mean instructor ratings were examined on an item basis. Moreover, self assessment scores were also examined on an item basis so that the prospective teachers' self-perceptions about their own presentation skills could be revealed. In Table 1, the scale items are given in their order appearance in the assessment form. Items with low means represent the items in which the prospective teachers' presentation skills for science teaching are the weakest, while items with high means represent the areas in which they are strongest.

Table 1. Item means for peer, self and instructor assessment scores

Items*	Peer	Self	Instructor	Items*	Peer	Self	Instructor
1. I know basic science concepts and principles that I thought	4,45	4,41	4,16	**14.** I related the science subject to daily life.	4,53	4,52	3,72
2. I related the basic science concepts and principles to each other in a reasonable way	4,34	4,20	3,91	**15.** I started the science lesson in a reasonable way.	4,41	4,47	4,10
3. I used appropriate language and visual aids (figures, charts, graphs, etc.).	4,46	4,33	4,13	**16.** I motivated the students toward the science subject.	4,23	4,22	3,96
4. I connected the science subject to other science subjects studied earlier.	4,12	4,14	3,67	**17.** I could maintain a democratic learning environment.	4,35	4,31	3,93
5. I determined the misconceptions of the students on the science subject.	3,89	3,96	3,13	**18.** I kept the students motivated during the science lesson.	4,17	4,07	3,73
6. I could answer the students' questions about the science subject.	4,18	4,20	3,68	**19.** They summarized the science lesson.	4,10	4,17	3,73
7. I maintained safety during the science activities.	4,22	4,27	3,66	**20.** I could communicate with the students.	4,41	4,36	4,02
8. I used a variety of teaching methods and techniques.	4,23	4,26	3,93	**21.** I provided clear explanations and directions during the science lesson.	4,32	4,10	3,65
9. I used the time efficiently.	4,17	3,99	3,66	**22.** I asked science questions that made the students think.	4,05	4,11	3,23
10. I organized science activities for activating the students.	4,50	4,32	3,98	**23.** I used their voice effectively throughout the lesson.	4,25	4,11	3,86
11. I regulate their teaching according to individual differences of the students.	3,98	3,95	3,62	**24.** I listened to the students attentively.	4,39	4,35	3,98
12. I used materials appropriate to the grade level of the science subject.	4,44	4,34	3,95	**25.** I used verbal and body language effectively.	4,26	4,08	3,73
13. I provided appropriate feedback and summaries.	4,16	4,26	3,75				

* All items in the self assessment form were organized properly for peer and instructor assessment. To provide an example on an item basis, the item "I know basic science concepts and principles that I taught." in the self assessment form was reformulated as "He/she know basic science concepts and principles that he/she taught." in the peer and instructor assessment forms.

As is clear from the findings given in Table 1, the aspects of presentation skills in which the pre-service teachers were the most strong according to self-peer and instructor assessments are "knowing basic science concepts and principles", "using appropriate language and visual aids", "organizing science activities for activating the students", "relating the science subject to daily life" and "starting the science lesson in a reasonable way". Below in Figure 1 is a graph of the item means for peer, self and instructor ratings. As seen in Figure 3, the means for the 5th and 22nd questions are low. These represent the weakest items for the students' science teaching skills. The fact that the peer and self assessment scores fell down in the same questions demonstrates that both the students themselves and their peers noticed their shortcomings in these areas.
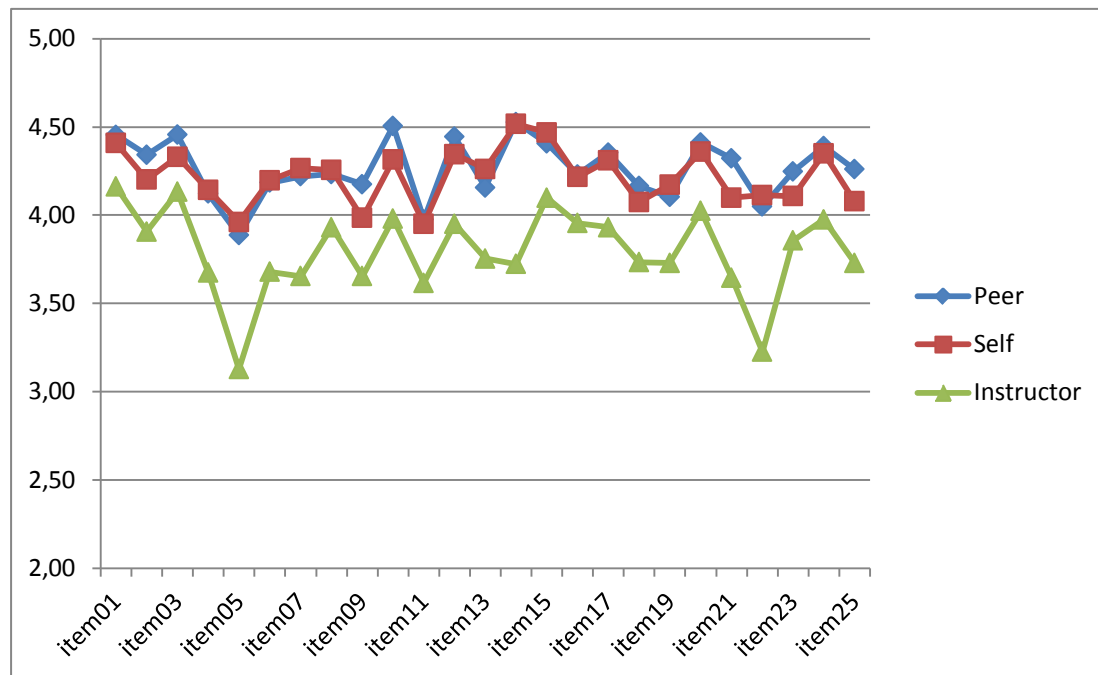
Figure 1. Item means for peer, self and instructor ratings

The findings obtained as results of the applications demonstrate that the pre-service teachers' weaknesses in presentation skills are similar to those revealed by self, peer, and instructor assessments. It is also clear that the pre-service teachers obtained the lowest scores in the items of "determining the misconceptions of the students on the science subject" and "regulating teaching according to individual differences of the students" according to both self-peer and instructor assessments. Furthermore, the items, "using time efficiently" and "asking science questions that made the students think", are also among the aspects in which the pre-service teachers are not strong. Figure 1 presents the pre-service teachers' scores according to the three types of assessment. The graph shows that these score types are to a great extent in agreement.

DISCUSSION

According to the results of the study which aimed to reveal pre-service teachers' strengths and weaknesses in presentation skills, the participants were found to be competent in knowing basic science concepts and principles, using appropriate language and visual aids, organizing science activities for activating the students, relating the science subject to daily life and starting the science lesson in a reasonable way. Nevertheless, the pre-service teachers have shortcomings chiefly in determining the misconceptions of the students on the science subject and regulating teaching according to individual differences of the students, as well as in using time efficiently and asking science questions that made the students think. The last two shortcomings are attributed to the fact that the pre-service teachers had not yet received the teaching application course. These results are in parallel to the results of a study conducted by Evrekli, Sasmaz-Oren, and Inel (2010). In their study examining pre-service teachers' self-efficacy toward the constructivist approach, the researchers found that the pre-service teachers in the study perceived themselves as efficient in organizing activities to activate students and relating students' knowledge to daily life. The

authors also demonstrated that the pre-service teachers perceived themselves as less efficient in addressing questions that encourage students to use their higher-order skills and creating a cognitive conflict environment in the classroom.

The elementary curricula in Turkey have been organized on the basis of the constructivist approach sine 2005-2006, which brought about a greater emphasis on the importance of training pre-service teachers who can successfully apply this approach in their classes. In particular, determining students' misconceptions, regulating the teaching environment according to individual differences, and asking questions that make students think – the main weaknesses in presentation skills identified for the pre-service teachers – are arguably the key points in developing constructivist learning environments. Identifying misconceptions will provide the teacher with ideas as to how future learning environments should be organized and how the learning process should be regulated. Moreover, identifying such misconceptions also plays a key role in building students' later knowledge constructions on strong grounds. The constructivist approach argues that every individual come to the classroom environment with different previous knowledge and experience. In this approach, students' previous knowledge plays a significant role in the learning process in attaining new learning (Martinez-Delgado, 2002; Akpinar and Ergin, 2005). As a result, creating learning environments suitable for students' previous knowledge and individual differences will help them, to a great extent, construct their knowledge. Finally, asking questions that make students think arguably encourages students to question their own knowledge at a meta-cognitive level and to conduct scientific research. Brooks and Brooks (1993) note that the ability to ask questions that make students think is one quality of a constructivist instructor.

CONCLUSION

Through a discussion and interpretation of the study results, it was found that the pre-service teachers have shortcomings about identifying students' misconceptions and regulating teaching according to individual differences. Therefore, it could be argued that pre-service teachers should be informed about the identified problems in undergraduate courses and offered opportunities to carry out relevant applications. Furthermore, given the pre-service teachers' shortcomings about using time efficiently and asking questions that made students think, the courses of school experience and teaching applications I and II are believed to be useful in this respect. Finally, for further research, it is suggested that studies should be conducted with pre-service senior elementary teachers taking the courses of school experience and teaching applications.

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