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Pre-service Chemistry Teachers' Expectations and Experiences in the School Experience Course

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Abstract: The purpose of this study is to investigate prospective chemistry teachers' expectations and experiences of teaching practice. Six (four females and two males) pre-service chemistry teachers taking a School Experience II course participated in the study. A case study design was employed. The data were collected from multiple sources including observations, lesson plans, and semi-structured interviews before and after the school experience course. Pre-service teachers' expectations and experiences were categorized regarding the faculty, placement school, and teaching practice. It was found that school experience courses are crucial for pre-service teachers in deciding whether to continue in the teaching profession. It is also concluded that the harmony between pre-service teachers' expectations of and experiences in the school experience course had an influence on their opinions related to the teaching profession.

Introduction

School experience courses provide an opportunity for pre-service teachers to apply the theoretical learning supplied by university teaching programs. These courses are a crucial component of teacher education programs (McIntyre, Byrd, & Foxx, 1996). Upon entering a teacher education program, pre-service teachers hold some beliefs, attitudes, expectations, and concerns about teaching based on their previous experiences (Cole & Knowles, 1993; Robson, 1991; Wubbels, 1992). Pre-service teachers' concerns and expectations about teaching influence their development as teachers (Guillaume & Rudney, 1993). Moreover, pre-service teachers' field practice experiences affect their conceptions about teaching as a profession (Beck & Kosnik, 2002; Brooks, 2006; Richardson, 1996). Even after the practicum, some pre-service teachers decide not to continue in the teaching profession (Chong & Low, 2009). Therefore, it is important for pre-service teachers to have positive experiences at their placement schools. Various factors influence the quality of the experience at the placement school. For example, the mentors at schools play crucial roles in providing pre-service teachers with positive and beneficial experiences (Hudson & Nguyen, 2008; McIntyre et al., 1996). Beck and Kosnik (2002) indicated that pre-service teachers in Canada counted the following as factors necessary for a good placement school experience: emotional support from their mentors, being treated as a teacher by their mentors, constructive feedback, and collaborative relationships. Moreover, Vietnamese pre-service teachers thought that mentors should be a model for effective teaching (Hudson & Nguyen, 2008). Study of Hudson, Skamp and Brooks (2005) conducted in Australia stated that mentors should be flexible and should allow student teachers to experiment with new teaching methods while teaching. Similarly, many studies have revealed the following characteristics of effective mentoring: giving constructive feedback (Beck & Kosnik, 2002; Britzman, 1991; Calderhead & Shorrock, 1997); supporting and guiding pre-service teachers (Calderhead & Shorrock, 1997; Feiman-

Nemser & Beasley, 1997; Fosnot, 1996; Hudson et al., 2005; Williams, 1994); and providing a friendly and comfortable environment for pre-service teachers to express their ideas (Brooks & Sikes, 1997; Koerner, Rust, & Baumgartner, 2002). However, student teachers' opinions of their mentors' qualifications differ from these characteristics. Findings in the literature reveal that mentors are strict and that pre-service teachers have to follow what their mentors told them to teach instead of experimenting with new teaching strategies (Author, 2006; Beck & Kosnik, 2000; LaBoskey & Richert, 2002). Moreover, in a study from Christie, Conlon, Gemmell and Long (2004) pre-service teachers in Scotland did not receive any constructive feedback from their mentors related to their teaching practice; instead, they were just told that their teaching was fine, even if it was not. Moreover, mentors did not allocate enough time for giving feedback: they gave feedback during limited periods, such as at the end of the lesson or during break times.

In addition, university tutors have to effectively assist pre-service teachers to provide them with an appropriate placement school. The need for cooperation between university tutors and mentors was mentioned by Beck and Kosnik's (2000) study conducted in Canada and Casey and Howson (1993). The tutor's role is very important in guiding and facilitating the professional development of pre-service teachers, as well as in providing them with feedback. By observing tutors, pre-service teachers in Singapore develop an understanding of the teacher's role in the learning environment (Lim & Chan, 2007). School experience courses should bridge the gap between theory and practice. Many studies have reported that what is learned in the university is irrelevant to what is experienced in schools (Drever & Cope, 1999). Tutors should clearly specify the expectations of placement schools to the mentors. An ongoing, active dialogue between the faculty and the placement schools should continue throughout the course (Beck & Kosnik, 2000, 2002).

As mentioned above, school experience is a component of teacher education programs in which pre-service teachers have the chance to observe mentors' instruction and to practice teaching themselves. Munby and Russell (1994) stated that pre-service teachers had high expectations for the school experience; they expected to gain enough teaching experience, and they hoped that their mentors would support and guide them. The success of field practice depends on the extent to which pre-service teachers' expectations are fulfilled (McIntyre et al., 1996).

Therefore, understanding the expectations and experiences of prospective teachers is important, and the purpose of this study is to investigate prospective chemistry teachers' expectations and experiences of teaching practice.

Significance of the Study

School experience plays a critical role in a pre-service teachers' decision to become a teacher or not. In addition, studies have reported that when pre-service teachers' expectations are not met, this may negatively or positively affect them (Cole & Knowles, 1993; Kirschner, Meester, Middelbeek, & Hermans, 1993). Therefore, understanding the expectations and experiences of prospective teachers is important. However, there is a gap in qualitative research on pre-service teachers' expectations and experiences of teaching practice. Therefore, this study will help clarify some realities about the pre-service chemistry teachers' expectations and experiences of school experience.

Methodology

A case study design was used in this study. Merriam, Yin and Stake (as cited in Bogdan & Biglen, 2007) state that a case study is a detailed examination of one setting, a single subject, a single depository of documents, or one particular event. The data were collected from multiple sources including observations, lesson plans, and semi-structured interviews before and after the school experience course.

Participants and the Setting

In this study, purposeful random sampling was used. Patton (1990) suggested the use of purposive random sampling, which involves the random selection of a small sample from the study site, to obtain in-depth information without a time-consuming and effortful investigation of an entire population. Six (four females and two males) of 15 pre-service teachers taking a School Experience II course in one of the public universities in Turkey were randomly selected for the study. In this study, for in-depth analysis, two of six pre-service teachers' expectations and experiences (Sermin and Ahmet) were presented as intense cases since they provided rich examples for the study. Sermin was the student who has the highest GPA (3.66 out of 4) in her class. On the other hand, Ali had an average GPA (2.81 out of 4).

Instruments

In order to provide the trustworthiness of the study, triangulation of sources, member checking and thick description of the instruments and sample were used (Lincoln & Guba, 1985). Three instruments were used in the present study: semi-structured interviews, observation checklists, and lesson plans to provide triangulation of sources. At the beginning of the school experience course, semi-structured interviews (pre-interview) were conducted to evaluate pre-service teachers' expectations of the faculty, the placement school, and their teaching practice. After students completed this course, they were interviewed again to examine how their expectations and experiences overlapped. The pre-interview questions related to pre-service teachers' expectations are provided in the Appendix. Pre-interviews and post-interviews lasted up to 47 and 49 minutes, respectively, and were audio recorded and transcribed for analysis.

An observation checklist was used to evaluate pre-service teachers' teaching practice. This checklist is used to assess students' teaching performance, as a part of grading in the course. To provide systematic observation and reduce bias, assessment criteria in the checklist was set up before observations. The checklist included the following rated items: self-confidence in teaching, use of voice, competency in chemistry content knowledge, use of media, application of daily life, classroom management, consideration of students' misconceptions, historical background of related subjects, use of teaching method, and use of time. The highest score possible on the observation checklist is 100, and high scores indicate effective teaching practice.

Before their teaching practice, pre-service teachers also prepared a lesson plan. The lesson plan covered the following: the prerequisite, general, and specific objectives of the subject material; the instructional materials and technologies used in the classroom; the pre-service teacher's teaching strategy, pre- and post- assignments for the students, presentation of the topic integrated with objectives, teaching aids and teaching strategies, and an evaluation of the students' performance. Lesson plans were used to judge whether pre-service teachers' instruction was parallel with their lesson plans.

Data Analysis

The interview data were initially analyzed based on Creswell's (1994) six generic steps. The authors independently coded the data and discussed the conflicts between the categories, and the categories were finally verified. Moreover, it should be noted that the medium of the instruction was Turkish therefore the quotes were translated into English.

Table 1 shows the pre-service teachers' expectations about the faculty, the school and their teaching practice, whereas Table 2 shows the experiences of pre-service teachers at their placement schools.

	Faculty-based expectations	Placement school	Teaching practice
Ahmet	Effectiveness of presentations in the course	a. Mentor Observing classroom management Teachers' actions to the needs of students	a. Mentor feedback but not as much as the tutor's b. Tutor
	Understanding the teaching profession	b. Teaching method Lecturing c. Assessment and evaluation Alternative assessment techniques such as projects	Feedback and motivation c. Teaching concern Difficulty in classroom management Difficulty in using different methods Insufficient conceptual knowledge
Sermin	Understanding the teaching profession	a. Mentor Feedback about teaching profession b. Teaching method lecturing and demonstration c. Assessment and evaluation Multiple-choice tests, essay type questions and quizzes	a. Mentor Feedback b. Tutor Feedback c. Teaching concern Difficulty in classroom management Not being seen as a teacher by students Difficulty in using different methods Lack of laboratory and technological facilities
Ibrahim	Not much expectation (Just the same as the previous school experience course)	a. Mentor Show not much interest to us b. Teaching method Lecturing c. Assessment and evaluation Only multiple-choice tests	a. Mentor Feedback b. Tutor Feedback c. Teaching concern Difficulty in classroom management Not being seen as a teacher by students
Ela	Serve as a bridge function between school placement and us	a. Mentor Communicate us well b. Teaching method Lecturing c. Assessment and evaluation Only essay type questions	a. Mentor Feedback but not as effective as tutor's b. Tutor Feedback c. Teaching concern Difficulty in classroom management Anxiety

			Difficulty in using different methods
			Insufficient content knowledge
Ayla	No expectations (Just the same as the previous school experience course)	a. Mentor Role-model Feedback about teaching profession Motivate us Positive relationship b. Teaching method Lecturing c. Assessment and evaluation Multiple-choice tests and essay type questions	a. Mentor Feedback but not as effective as tutor's b. Tutor Feedback c. Teaching concern Difficulty in classroom management Not being seen as a teacher by students Difficulty in using different methods Anxiety Not being able to answer students' questions Not to be parallel with the lesson plan
Deniz	Learning about teaching profession	a. Mentor Benefit from their experiences b. Teaching method Lecturing c. Assessment and evaluation Essay type questions	a. Mentor Feedback b. Tutor Feedback c. Teaching concern Not being able to answer students' questions Difficulty in using the teaching method Not being seen as a teacher by students

Table 1. Pre-service Teachers' Expectations about Faculty, School and their Teaching Practice.

	Faculty-based experience	Placement school	Teaching practice
Ahmet	Benefited from course presentations Understood the teaching profession	a. Mentor Good at classroom management b. Teaching method Lecturing with some experiments c. Assessment and evaluation Fill-in the blanks, matching and essay type questions	a. Mentor Insufficient feedback b. Tutor Sufficient feedback and motivation c. Teaching concern No problem in classroom management Adjustment of time in using lecturing Insufficient conceptual knowledge
Sermin	Partially ineffective on understanding the teaching profession	a. Mentor Not enough feedback about teaching profession b. Teaching method Lecturing c. Assessment and evaluation only multiple-choice tests	a. Mentor Insufficient feedback b. Tutor Sufficient feedback c. Teaching concern No problem in classroom management Not being seen as a teacher by students Adjustment of time in using different methods Lack of laboratory and technological facilities
Ibrahim	Active involvement in the course and feeling as a teacher	a. Mentor Good role-model Positive relationship b. Teaching method Lecturing c. Assessment and evaluation Multiple-choice tests, essay type questions and oral examinations	a. Mentor Effective feedback b. Tutor Sufficient feedback c. Teaching concern Good at classroom management
Ela	Served as a bridge function between school placement and us	a. Mentor Good communication b. Teaching method Lecturing c. Assessment and evaluation	a. Mentor Sufficient feedback b. Tutor Sufficient feedback c. Teaching concern

		Only multiple-choice tests	Difficulty in classroom management
			Not being seen as a teacher by students
			No difficulty in using the teaching method
			Lack of technological facilities
Ayla	Guiding us effectively	a. Mentor	a. Mentor
		Not open to new developments and technologies	No feedback
		Not enough communication	b. Tutor
		b. Teaching method	Sufficient feedback
		Lecturing	c. Teaching concern
		c. Assessment and evaluation	No difficulty in classroom management
		Only multiple-choice tests	Lack of laboratory and technological facilities
			Good at content knowledge
Deniz	Learned about teaching profession	a. Mentor	a. Mentor
		Benefited from their experiences	Insufficient feedback
		Positive relationship	b. Tutor
		b. Teaching method	Sufficient feedback
		Lecturing	c. Teaching concern
		c. Assessment and evaluation	Good at using the teaching method
		Only multiple-choice tests	Answered students' questions properly

Table 2. Pre-service Teachers' Experiences About Faculty, School and their Teaching Practice.

In terms of the faculty, two pre-service teachers had no expectations while most of the pre-service teachers benefited from the faculty positively, except for one participant who mentioned that the faculty was not so effective in guiding her understanding of the teaching profession.

Regarding the placement school, five out of six pre-service teachers expected their mentors to give feedback about the teaching profession and expected that they would learn from their experiences; only one pre-service teacher stated that his mentor would not be interested in him/her. As expected, most of the pre-service teachers' expectations were satisfied, though two pre-service teachers' expectations were not fulfilled because they did not get enough feedback about the teaching profession and did not communicate well with their mentors. All of the pre-service teachers expected to observe lecturing as a teaching method at their placement schools. Five out of six pre-service teachers thought that their mentors would use traditional assessment and evaluation techniques, whereas only one pre-service teacher expected to see alternative assessment and evaluation techniques such as projects. Consistent with their expectations, pre-service teachers observed lecturing as a teaching method and traditional assessment and evaluation techniques at their placement schools.

Related to teaching practice, pre-service teachers had a variety of teaching concerns related to the following: classroom management (five pre-service teachers), insufficient content knowledge (two pre-service teachers), the use teaching methods (five pre-service teachers), and not being seen as a teacher by students (four pre-service teachers). Contrary to their expectations, most of the pre-service teachers did not face these problems in their teaching practice.

Results

In this study, two of six pre-service teachers' expectations and experiences were presented as cases because they provided good examples for this study.

Case 1: Sermin

Sermin had the highest GPA in her class. She graduated from this course with a score of 95 out of 100. She participated in class discussions and usually shared her observations with her classmates. She taught the electrolysis topic in the chapter on electrochemistry to the 11th grade students at an Anatolian high school. In her lesson plan, she wrote that she would use discussion and concept maps as teaching strategies and would link the topic with real-life applications, such as the use of electrolysis with metal plating and in the healthcare industry. However, it was observed that she used only concept maps, without encouraging a discussion among the students. In addition, she did not mention the real-life applications of the topic in her lesson. The tutor evaluated her teaching practice by scoring the observation checklist, and she received a 51 out of 100. The strengths of her instruction were self-confidence in teaching and the effective use of voice and language; however, her competency in chemistry content knowledge, use of media, daily life applications, classroom management, use of teaching method, and use of time were not good enough. In addition, she did not consider students' misconceptions during her instruction though she included students' misconceptions of the related topic in her lesson plan.

Faculty-based Expectations

Sermin expected to learn more about the teaching profession through this course: "I hope to benefit from the experiences of the teachers by observing how they deal with classroom management and respond to the needs of students". She also added that she expected the faculty course to guide her observations at her placement school. However, her expectations were largely unfulfilled. Because of traditional teachers and instruction at the placement school, she said that she observed the same monotonous teaching methods, so she was unable to see how the alternative teaching methods that she learned on the faculty could be applied in a real classroom setting; therefore, she did not gain much from her observations.

On the other hand, she benefited from the activities that she prepared in the school experience course. For example, she mentioned that she could apply the group work and preparing a test activity at her placement school and that she felt that she was more actively involved in the teaching process. Similarly, she emphasized the importance of sharing her observations of her placement school with her classmates who observed different teachers at different schools.

Placement School

Sermin expected that her mentor would share his/her experiences about the teaching profession and would provide advice for how to be a good teacher. However, her mentor did not give as much advice as she expected. She said that her mentor only provided the necessary materials and environment that she needed for the course tasks, such as preparing a test and analysis activities.

In terms of teaching method, she anticipated to mostly observe lectures. She explained the mentors' preference for lecturing because of the university entrance examination and teachers' lack of knowledge about alternative teaching methods. She observed lecturing throughout the school experience course, as she expected. Therefore, she stated that her observations at her placement school did not contribute much to her development as a teacher. Similarly, she expected to observe traditional assessment techniques such as multiple-choice tests, essay type questions, and quizzes. Consistent with her expectations, during her school experience, she saw that only multiple-choice tests were used by teachers as an assessment technique. She discussed several disadvantages of multiple-choice tests:

I observed that multiple choice tests were suitable for cheating. Moreover, multiple choice tests are not better for assessing higher order thinking skills. I noticed that students are used to multiple-choice tests and they get bored if they were asked for writing detailed explanations for questions in an exam. For example, I prepared a worksheet involving some open-ended questions. Students were reluctant to answer these questions. But I think that open-ended questions are better for understanding students' ideas and assessing their learning.

As understood from the above explanation, the only assessment technique that she observed at her placement school was multiple-choice tests. According to her, these kinds of tests were not suitable for understanding students' reasoning behind their ideas.

Teaching Practice

Sermin said that both her tutor's and mentor's feedback would be crucial for correcting her mistakes and for improving her effectiveness as a teacher. However, she expected to get feedback from her tutor and mentor in different aspects:

Tutors on the faculty are aware of different teaching methods and we have courses on alternative teaching methods on the faculty, therefore, tutors want us to implement teaching methods different from lecturing in our teaching practice. Therefore, I think that tutors will give feedback mostly about the use of teaching methods. However, since mentors are used to

instruct students traditionally, their feedback would be about how to provide good classroom management and student relationship rather than the teaching method that we used.

After her teaching practice, she stated that she did not get any feedback from her mentor whereas the feedback from her tutor was sufficient:

My mentor only said that my instruction was good, she did not criticize my teaching practice in any aspect. On the other hand, my tutor gave feedback about the effective use of concept map in classroom. For my next teaching practice, I would definitely consider my tutor's feedback.

In addition to feedback, Sermin stated that she had concerns about classroom management, not being seen as a teacher by students, using different teaching methods, and laboratory and technological facilities. In terms of classroom management, she said that she could come across students' misbehavior and that she may not know how to deal with these problems because she is an inexperienced teacher candidate. Second, she thought students in the classroom may not see her as a teacher because of her mentor's attitude: "While introducing us to the students in the classroom, my mentor told them that we would be their guest during the semester. I expected to be introduced as their teacher".

Third, she explained that she may have difficulty in using teaching methods other than lecturing since the students were not used to alternative teaching methods.

Since the students are used to being instructed by lecturing, they may not grasp the main point of the activities while being instructed by alternative teaching methods like role-playing, inquiry, etc. So it would be waste of time for students. Similarly, I may not manage the class effectively because students may consider these activities as free time to talk to each other.

As a final concern, she indicated that there may be some deficiencies in terms of laboratory and technological facilities and this could affect her choice of teaching method.

After her teaching experience, she said that the students did not see her as a teacher, as she had expected. In spite of this, she said that she dealt with trivial classroom management problems:

I distributed the concept map to the students and while I was making explanations about what to do concerning concept map, some students started to talk to each other. At that point, I told them that if they know what they are supposed to do, there is no necessity of me making explanations. Then, they stopped talking. So, I could solve this problem. However, I think that the presence of their own teacher in the classroom was an advantage for me to deal with these kinds of trivial classroom management problems in a short time. It could be different if I were alone in the classroom.

Consistent with her concerns, the lack of laboratory and technological facilities had an impact on her choice of teaching method. Though she decided to perform an electrolysis experiment and to show an electrolysis animation to the students, because of the lack of laboratory and technological facilities, she had to change her desired teaching method. Therefore, she stated that she mainly had to lecture during her instruction. Although she tried to use discussion, she could not implement it properly because her mentor had already taught the topic: "I tried to use discussion but students already knew the topic. Therefore there was no exchange of ideas among students so it was not effective."

Another issue she experienced while instructing concerned proper time management. That is, she used a concept map to summarize the lesson at the end of her instruction. However, she had problems with time management while using the concept map:

I wrote the keywords of the concept map on the blackboard and I spent a lot of time to do this. If I had distributed these keywords written on a piece of paper to the students, I would have had enough time for completing the concept map, As a result, I learned that I needed to plan how to use time effectively.

The above quotation indicates that Sermin reflected on her use of the concept map in the classroom for what to do as her next teaching method, which is promising. As a summary, Sermin's expectations were mostly in harmony with her experiences, except the feedback from her mentor. She stated that she thought her mentor would

give sufficient feedback on her teaching performance; however, she could not get enough feedback from her mentor after her instruction:

> *I tried to use teaching method different from lecturing for my teaching practice and I spent a lot of effort to be prepared for the lesson. I wish my mentor would notice my effort and give feedback accordingly. However, I was upset with the feedback from my mentor. She just said my instruction was good.*

As understood from her explanations, the mismatch between her expectations and experiences disappointed her.

Case 2: Ahmet

Ahmet was a hardworking student with an average GPA. His score from this course was 87 out of 100. He was eager to share his ideas with his classmates. He taught the topic of cleaning agents from the Chemistry in Life chapter to the 9th grade students at an Anatolian high school. His instruction paralleled his lesson plan; he used lecturing as a teaching strategy, as he mentioned in his lesson plan. While teaching, he used PowerPoint slides to explain the history of cleaning agents, the production of soap, how cleaning agents function, and the differences between soap and detergent. He scored 70 out of 100 from the observation checklist. He was self-confident in teaching, and he used language, media, and daily-life applications effectively. Moreover, he mentioned the historical background of the topic. However, his competency in the subject matter, use of voice, use of teaching method, and interaction with students were not good enough.

Faculty-based Expectations

Ahmet compared the current and previous school experience course. He stated that the current school experience course will be more beneficial for him in the future because of the nature of activities and presentations in the course:

> *One hour class at faculty in the previous school experience course was not helpful for me. We were always passive at this course, but in this course, we will make presentations. For example, we will prepare a checklist related to evaluation of mentor's directions and explanations. The checklist will include the characteristics and responsibilities that a good teacher should have and it is good for me to know such kind of things to understand the teaching profession. Also, my classmates will make presentations such as preparing a test and assessment and evaluation etc. so this class hour will be useful for me.*

In line with his expectations, he benefited from taking the school experience course. He indicated that the course activities and presentations got them actively involved in the teaching process.

Placement School

At the placement school, Ahmet especially expected to learn the strategies that his mentor used, such as how to deal with unexpected situations, how to respond to the needs of students, and how to direct the class. After the school experience, he said that although he learned about classroom management on faculty, he was not able to apply these strategies at the placement school. Moreover, he could not observe the way mentor behaved when he came across a question he could not answer as an unexpected situation.

Consistent with his classmates' expectations, Ahmet predicted that his mentor would use lecturing in his/her instruction. But unlike his classmates, he observed that his mentor integrated related experiments into his lecturing. He also emphasized that his mentor was the

only teacher who used the laboratory at the placement school. In terms of assessment and evaluation, Ahmet expected to see alternative assessment techniques such as projects. However, he observed traditional assessment and evaluation techniques such as fill-in-the-blank, matching, and essay questions.

Teaching Practice

Although Ahmet hoped to get feedback on his instruction from both his tutor and his mentor, he did not think that the feedback from his mentor would be as helpful as that from his tutor. Moreover, he stated that he would also like his tutor to motivate him:

> *I am an excited person. So during my instruction, I would like my tutors to relieve my anxiety by establishing eye contact, smiling etc. and I would also like my tutor to help me in case I am stuck at some point in my instruction.*

Ahmet said that before the teaching experience, his mentor only told him that it was normal to get excited during his first teaching experience and provided no further feedback. However, his tutor motivated him during his instruction and gave sufficient feedback after his instruction. For example, his tutor advised him about transitioning between activities smoothly to avoid wasting time.

Similar to his classmates, Ahmet had teaching concerns related to classroom management, use of teaching method, and his content knowledge. Ahmet thought that he would have some difficulties in classroom management before his school experience course. He stated that he was worried about having authority in the classroom. He was afraid of not being seen as a teacher by the students. However, he did not experience any difficulties with classroom management while he was doing his teaching practice because his mentor was present in the classroom.

Ahmet used lecturing as his teaching method, and except for managing time, he did not have any problems. However, he changed his mind regarding his preference of teaching method after his teaching practice. He noticed that lecturing would not be effective by itself:

> *I was the advocator of lecturing so I used lecturing at my instruction. But after I got feedback from my tutors, I changed my mind. I think lecturing is not effective by itself. A teacher should use different teaching methods in the classroom for effective instruction.*

Moreover, Ahmet emphasized that his chemistry content knowledge was not sufficient to teach competently both before and after the school experience course. He criticized the chemistry education program at the university:

> *I don't feel that I am adequate at chemistry content knowledge. We were taught chemistry concepts by rote learning during our courses at faculty. Beside this, chemistry education courses related to misconceptions in chemistry, teaching methods, etc. were given close to our graduation. However, according to me, these kinds of courses should be taught from the beginning of our chemistry education program.*

The most striking outcome of Ahmet's teaching experience is his decision about the teaching profession. He said that he decided not to teach in the future:

> *Before the school experience course, I was undecided about doing teaching profession in the future. After the school experience course, I was sure that I wouldn't be a teacher. A good teacher should have some characteristics. For example, the teacher should be patient and a good leader in the classroom. S/he should be aware of the individual differences, interest, and cognitive level of the students. S/he should deal with unexpected situations peacefully. Also, a teacher should have adequate chemistry content knowledge. However, I don't think that I have all these characteristics to be a good teacher.*

Therefore, the school experience course influenced Ahmet's decision about being a teacher in the future. Ahmet's explanations indicate that his expectations and experiences were mostly consistent with each other. However, in terms of assessment and evaluation, he had hoped to observe alternative assessment and evaluation techniques, such as projects, but he observed only traditional assessment and evaluation techniques during his school

experience: "I could not observe what we learnt from the faculty. It is too sad but if I cannot apply what I learnt in the university as a teacher, I do not want to do this profession." The inconsistency between his expectations and experiences affected him negatively, and to some extent, it affected his decision to be a teacher in the future.

Discussion and Implications

This study revealed that the school experience course is crucial for pre-service teachers' decisions as to whether to become teachers in the future, a finding that is also reported in the related literature (Brickhouse & Bodner, 1992; Ng, Nicholas, & Williams, 2010). For example, one of the pre-service teachers (Ahmet) decided that the teaching profession is not an appropriate job for him because he thought that he did not have the necessary personal characteristics, such as being a good leader, being patient, and having the self-confidence to express his ideas in front of a large crowd. Moreover, he stated that the teaching profession is a serious occupation because it plays a fundamental role in the development of society by educating new generations. He did not feel confident enough to take on this responsibility. Though it is promising that he understands the impact of the teaching profession on society, he is not self-confident enough to be a teacher.

All of the pre-service teachers said that they only observed lecturing as a teaching method at their placement schools, as they expected (See Table 1 and 2). Likewise, pre-service teachers could not observe the application of alternative assessment and evaluation techniques such as portfolio and project-based assessment. Many studies have also reported a lack of a connection between what is taught in universities and what is observed at placement schools (Author, 2006; Drever & Cope, 1999; Ogan-Bekiroglu, 2007).

Though pre-service teachers were pleased with the feedback that they received from their tutors for their teaching practice, pre-service teachers were not satisfied with the feedback that they received from their mentors. However, giving constructive feedback (Beck & Kosnik, 2002; Britzman, 1991; Calderhead & Shorrock, 1997) and providing a friendly and comfortable environment for pre-service teachers to express their ideas (Brooks & Sikes, 1997; Koerner et al., 2002) were determined as the essential characteristics of good mentoring. This problem can be solved by choosing the appropriate mentor (Beck & Kosnik, 2000; Goodlad, 1990), who has ideas consistent with the faculty's expectations, such as being open to using new teaching methods and alternative assessment and evaluation techniques. Furthermore, tutors in the university should explicitly communicate the expectations of the mentors through seminars and workshops (Christie et al., 2004).

In terms of teaching concerns, most of the pre-service teachers were anxious about classroom management, using teaching methods, and not being seen as a teacher (See Table 1). Despite their expectations, they did not face many problems in classroom management because their mentors were in class with them and sometimes warned the students to follow the lesson. As they expected, the students did not behave toward pre-service teachers as they did their own teachers. This situation could result from the attitudes of their mentors. LaBoskey and Richert (2002) stated that pre-service teachers should feel that they are valued at placement schools. Being treated as a teacher is one of the crucial points mentioned by pre-service teachers that is necessary for a successful practicum (Beck & Kosnik, 2002). In terms of teaching methods, ineffective time management, a lack of student participation in class discussions, and the negative attitudes of their mentors caused inefficiency in pre-service teachers' use of teaching methods. Because the mentors taught the subject before the pre-service teachers' teaching practice, pre-service teachers were unable to gain much teaching experience. In addition, the mentors were not open to new teaching methods: they always used lecturing, and this influenced pre-service teachers' choice of teaching method. Many studies have argued that mentors have a great influence (positive and negative) on pre-service

teachers' teaching practice (Author, 2006; Beck & Kosnik, 2000; Calderhead & Shorrock, 1997). In Turkey, teacher education programs were arranged by the Council of Higher Education (YOK) in the 1998-1999 academic year. After the new teacher education programs were established, science teaching method courses were added to the curriculum. In this study, the mentors had over 15 years of teaching experience, and thus they did not benefit from this new program. As a result, they were not aware of teaching methods other than lecturing or of alternative assessment and evaluation techniques (Bekiroglu & Akkoc, 2009). This situation resulted in mentors' inadequate feedback on pre-service teachers' teaching practice. Pre-service teachers may not have opportunities to observe the teaching methods in school that they learned at the university, and some were not able to implement these methods at their placement schools because of their mentors' discouragement.

This study also showed that school facilities have an influence on pre-service teachers' choice of teaching method. A lack of laboratory and technological facilities at placement schools affected half of the pre-service teachers' preferences of teaching method. The findings of Ogan-Bekiroğlu (2007) also indicate that a lack of school facilities hinders pre-service teachers' implementation of alternative teaching methods.

This study concluded that the harmony between pre-service teachers' expectations and experiences of a school experience course had an influence on their opinions related to the teaching profession (Kirschner et al., 1993). The mismatch between pre-service teachers' expectations and experiences negatively or positively affected pre-service teachers. For example, Sermin had high expectations from her mentor. Because her expectations were not fulfilled, she was affected negatively and did not gain much from her school experience. Ahmet's expectations generally matched his experiences, except for the implementation of assessment and evaluation techniques at his placement school. This mismatch, in addition to his ideas about not having the necessary characteristics to be a teacher, acquired from his experiences, influenced his decision about being a teacher in the future.

The present study provides a piece of evidence for the influence of congruence between pre-service teachers' expectations and their experiences on pre-service teachers' understandings of the teaching profession. In light of the findings of this study, school experience courses may influence pre-service teachers' decisions to choose teaching as a profession. Therefore, to offer pre-service teachers a beneficial school experience, both mentors and placement schools should be selected meticulously, and the coordination between the faculty and the placement schools should be provided properly. Further study could be conducted longitudinally by tracing pre-service teachers' expectations and experiences from school experience to teaching practice, as they enter the teaching profession.

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Appendix
Interview questions

     1. What do you expect from the school experience course in terms of the faculty, placement school, and mentor?

     2. What do you expect from your teaching practice at your placement school?

     3. What are your expectations of the feedback that you will get from your tutor and mentor?

     4. What kinds of problems do you think you will encounter during your teaching practice? What are your teaching concerns in terms of the following:

- Classroom management
- Use of teaching method
- Laboratory and technological facilities
- Attitude of students

     5. What kinds of teaching methods do you expect to observe at your placement school?

     6. How do you think the teaching method courses that you took at the university will affect your capability of using particular teaching methods during your teaching practice?

     7. What kinds of assessment and evaluation techniques do you expect to observe at your placement school?