



TEACHING ANXIETY OF STUDENT TEACHERS FROM DIFFERENT DISCIPLINES

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Abstract

This study aims to find out the level of student teacher anxiety that student teachers from different majors of study experience and whether this level changes throughout the practicum. For this purpose 403 student teachers completing their teaching practicum in different departments at Anadolu University Faculty of Education participated in the study by answering a revised version of Student Teacher Anxiety Scale (STAS). The quantitative analysis of the data showed that although student teachers were moderately anxious about the items in the scale at the beginning and at the end of the practicum, there was a significant difference between the two administrations: the student teachers, regardless of department, were less anxious in the second administration. A 7X2 Mixed-design ANOVA analysis showed that there was a significant difference when time*department relationship is considered although time itself did not yield any significance. The findings are discussed along the existing literature and current practices of teaching education programs.

Key Words: student teachers, teaching anxiety, teacher education

INTRODUCTION

As the active participants of the classroom procedures, teachers or prospective teachers may sometimes experience anxiety while they are delivering a lesson. However, especially in the earlier studies, it was quite difficult to determine the types and measure the level of anxiety experienced by teachers since the concept of anxiety was mostly equated with concerns, problems, and needs of the teachers (Keavney & Sinclair, 1978). In order to address these problems, certain scales were developed to measure student teacher anxiety in a systematic way (Parsons, 1973 cited in Keavney & Sinclair, 1978; Hart, 1987; Williams, 1991).

Anxiety studies regarding classroom teachers are mainly centered on general concerns and problems of teachers rather than subject matter-specific concerns and problems. Bearing in mind the definitions and conceptualization of the anxiety concept, teaching is seen as a distinct construct that causes anxiety. In his account of personal views, Bernstein (1983) conceptualized teaching anxiety as a part of speech anxiety. According to Bernstein, teaching anxiety is a combination of experiences including psychological arousal, subjective distress, and behavioral disruption. Although they agree with this proposal in terms of speech anxiety, Gardner and Leak (1994) believe that teaching anxiety includes apprehension concerning interactions with audience which involve questions from students, immediate negative feedback, class disruptions, or end-of-term student evaluations as distinct from speech anxiety. In this respect, Gardner and Leak (1994, p. 28) conceptualize teaching anxiety as "anxiety experienced in relation to teaching activities that involve the preparation and execution of classroom activities".

Teacher anxiety has become the research interest of education scholars for more than three decades. Keavney and Sinclair (1978) found teacher concerns and teacher anxiety as a neglected topic of classroom research. They identified the research areas of teacher anxiety as i) the conceptualization of teacher anxiety, ii) measurement of teacher anxiety, iii) sources of teacher anxiety (concerns as sources and correlates of teacher anxiety as sources), iv) and consequences of teacher anxiety (survival-nonsurvival in the teaching profession, affective impact, achievement, and coping styles).

A number of studies have been conducted to explore the sources of and solutions to teacher anxiety in the last 30 years. Abel and Sewell (1999) found that poor working conditions and staff relations were the two most significant sources of stress and burnout among rural and urban secondary school teachers. According to Tytherleigh, Webb, Cooper, and Ricketts (2005), the most significant source of stress for the higher education staff in the UK was job insecurity. Work relationships, control, and resources and communication were also among the issues creating high levels of stress. In another attempt to investigate the teacher stress, Jepson and Forrest (2006) have recently found that

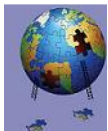


achievement striving and occupational commitment were two individual contributory factors in teacher stress. Furthermore, lack of time (Coates & Thoresen, 1976; Leach, 1984; Kyriacou, 1987), heavy work load (Borg, 1990), poor student behavior (Punch & Tuettemann, 1990; Friedman, 1995), and inadequate resources (Chaplain, 1995) were also identified as instigators of teachers' anxiety in teaching. In a recent study with librarians as teachers, Davis (2007) listed the physical symptoms of teacher anxiety as sweating, upset stomach, heart palpitations, and others; mental or emotional symptoms as being able to answer tough questions' or preparation, public speaking fears, and negative self-talk.

As an attempt to devise an instrument to measure the student teachers' anxieties, Hart (1987) conducted a study with student teachers in the UK. The 'Student Teacher Anxiety Scale' (STAS) was formed after a series of scale development efforts and the measure was implemented with 42 student teachers from both primary school and secondary school teaching practice. Hart identified four measured factors after the analyses and gauged the relationship of these factors to pupil disruption in class. He found that 'evaluation' anxiety showed the highest positive correlation with pupil disruption, followed by 'class control' anxiety. 'Teaching practice requirements' anxiety showed a statistically significant correlation but a non-significant partial correlation with pupil disruption. Anxiety arising from 'pupil and professional concerns' showed no statistically significant correlation with pupil disruption levels in the student teachers' classrooms.

Following Hart's (1987) scale development, a number of studies were conducted to find out the student teacher anxieties using the STAS. Morton, Vesco, Williams & Awender, (1997) explored the student teacher anxieties with 1000 Canadian student teachers within four different but interrelated studies. Capel (1997) found that the student teachers were moderately anxious and concerned on teaching practice and the main cause of the anxiety and concern on both teaching practices was being observed, evaluated and assessed. Nevertheless, some differences were also found in the causes of anxiety and concerns on the two teaching practices. Murray-Harvey, Silins and Saebel (1999) made a cross-cultural comparison of student concerns in the teaching practicum with Singaporean and Australian teacher candidates. The study revealed that the Singaporean and Australian teacher trainees had significantly different concerns related to their teaching practicum, which showed that differences in cultural contexts may affect the degree and type of anxiety experienced by student teachers. Also, Ngidi and Sibaya (2003) explored the relationship between student teacher anxiety and student teachers' personalities. The STAS was used to determine the anxieties, and the 'Eysenck Personality Questionnaire' was used to determine personality types. The findings revealed five factors as the sources of anxiety: evaluation, class control, professional preparation, school staff, and unsuccessful lesson. It was also found that the dimension of neurotic personality is significantly correlated with professional preparation as well as with delivering an unsuccessful lesson. In another recent study, Rieg, Paquette & Chen (2007) investigated the preservice teachers' concerns prior to their field experiences and during their field experiences or first year(s) of teaching. The findings revealed four main categories of concerns: concerns regarding elementary students, cooperating teachers and parents, and self. The 'self' concern included the following sub-categories of concern: content knowledge, pedagogy, workload, and relationships.

Finally, Çakmak's (2008) study in a Turkish context showed that preparation to the course, motivation and attention, class management, communication with students, and evaluation of student achievement were the most commonly discussed topics as the concerns of pre-service teachers. As for the gender variable, the researcher found that the correlation between concerns and gender was low. Yet, a few items such as undesired behavior and controlling the noise indicated strong correlations. The field of study, on the other hand, was found to be an important variable affecting student teachers' concerns. Student teachers from chemistry as post-graduate certificate education differed from the participants from chemistry, secondary mathematics, primary education mathematics, and physics education. The researcher, consequently, claimed that certain actions need to be taken in order to deal with the different concerns of student teachers in teacher education programs.



Research Questions

Based on the previous research findings reviewed above and considering the potential need for the teacher training institutions in the Turkish context, the following research questions, which formed the bases for the methodology of the study, were structured:

1. What is the level of student teacher anxiety that student teachers from different majors of study experience?
2. Does the level of student teacher anxiety that student teachers from different majors of study experience change throughout the practicum?

METHODOLOGY

Participants

403 student teachers from seven departments at Anadolu University Faculty of Education: Computer Education and Instructional Technologies (n=53), Mathematics Teaching for Primary Schools (n=44), Social Sciences Teaching (n= 39), Primary School Teaching (n=72), German Language Teaching (n=20), French Language Teaching (n=27), and English Language Teaching (n=148).

Instrument

In order to identify the level of anxiety experienced by student teachers in different majors at Faculty of Education before and after the teaching practicum, the Student Teacher Anxiety Scale (STAS), developed by Hart (1987) was used.

The Student Teacher Anxiety Scale (STAS) is a scale constructed to measure four orthogonal factors in teaching practice anxiety. It was developed by Hart (1987) using samples of student teachers in England, and the four factors were originally identified based on the factor analysis using the Varimax method. These factors were evaluation anxiety, pupil and professional concerns anxiety, class control anxiety, and teaching practice requirements anxiety.

The instrument has 26 items, and employs a seven-point Likert-type scale. For the aim of this study, the scale was modified in three ways as suggested in the literature (Morton et al., 1997; Ngidi&Spada, 2003). First, the STAS was translated into Turkish using the 'back-translation' method. The scale was translated into Turkish, the native language of the participants, in order to prevent any misunderstandings stemming from the language proficiency. Second, the wording was changed where necessary in order to make it more amenable to the Turkish context. Third, a five-point scale was used rather than a seven-point scale in order to parallel the rating format with the other research instrument and to make answering and scoring easier for the participants and the researcher, respectively.

The final version of the revised STAS, then, was tested for its validity and reliability. First of all, the scale was given to experts from the field (experienced researchers and teacher trainers) for any misunderstandings and problems in wording. The scale, then, was revised according to the feedback taken from the experts. Second, the scale was administered to 30 participants from the sample to ensure the ease of administration and to overcome any problems arising from the wording and placing of the items. This was done by the researcher to get the first-hand feedback about the items. At the end, a Turkish version of the 26-item Student Teacher Anxiety Scale was ready for administration. Reliability analysis was also conducted calculating the Cronbach's α coefficient. The coefficient ($\alpha=.916$) indicated that the revised version of the scale had a high level of internal reliability (Huck, 2004).



RESULTS

Student Teacher Anxiety: First Administration

In order to find out the anxiety levels of student teachers at the beginning of the practicum process, the Student Teacher Anxiety Scale (STAS) was administered before student teachers started their teaching experience. 403 student teachers from seven departments (Computer Education and Instructional Technologies, Mathematics Teaching for Primary Schools, Social Sciences Teaching, Primary School Teaching, German Language Teaching, French Language Teaching, and English Language Teaching) answered the STAS. Table 1 presents the descriptive statistics related to student teacher anxiety at the beginning of the teaching practicum for each department.

Table 1.
Descriptive Statistics of the First Administration of the STAS

Department	N	Mean	SD
English Language Teaching	148	3,57	,60627
German Language Teaching	20	3,55	,41087
French Language Teaching	27	3,53	,73700
Primary School Teaching	72	3,28	,67430
Social Sciences Teaching	39	3,59	,47838
Mathematics Teaching for Primary Schools	44	3,13	,67176
Instructional Technologies and Computer Teaching	53	3,39	,67962
All Departments	403	3,44	,64201

As Table 1 indicates, student teachers were moderately anxious about the items in the scale (Mean=3,44). When each department is taken into consideration, it is seen that student teachers from the Department of Mathematics Teaching for Primary School form the less anxious group among all groups (Mean=3,13). On the other hand, student teachers from the Department of Social Sciences Teaching (Mean=3,59) and English Language Teaching (Mean= 3,57) were among the most anxious groups.

In order to find out whether there were any significant differences among the anxiety levels of the student teachers from different departments at the beginning of the practicum, a one-way ANOVA was conducted (Table 2).

Table 2.
One-way ANOVA Results for Differences among Seven Departments

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9,933	6	1,656	4,209	,000
Within Groups	155,763	396	,393		
Total	165,696	402			

P<0,05

The results of the ANOVA analysis showed that there was a significant difference among the level of anxiety of student teachers from different departments (F= 4,209, p<.05). Moreover, in order to see the specific differences among the departments, a *post hoc* test was run. As the homogeneity of variance assumption was met [Levene's test was not significant (p= .066, p>.05)], Scheffe's multiple comparison test was selected and run. The analyses revealed that the mean difference between the anxiety level of student teachers from the English Language Teaching Department (M= 3,57, SD= .61) and the anxiety level of the student teachers from the Mathematics Teaching for Primary School (M= 3,13, SD= .67) was significant (p=0,12, p<.05).



Student Teacher Anxiety: Second Administration

In order to find out the anxiety levels of student teachers at the end of the practicum process, the Student Teacher Anxiety Scale (STAS) was administered at the end of the teaching practicum. 348 of the student teachers who had participated in the first implementation from seven departments answered the STAS once again. Table 5 presents the descriptive statistics related to student teacher anxiety at the end of the teaching practicum for each department.

Table 3.
Descriptive Statistics of the Second Administration of the STAS

Department	N	Mean	SD
English Language Teaching	137	3,14	,85325
German Language Teaching	20	3,64	,51623
French Language Teaching	27	3,77	,63383
Primary School Teaching	63	3,44	,64506
Social Sciences Teaching	30	3,67	,71018
Mathematics Teaching for Primary Schools	24	3,36	,87697
Instructional Technologies and Computer Teaching	47	3,40	,63055
All Departments	348	3,37	,77237

As Table 3 indicates, student teachers were moderately anxious about the items in the scale (Mean=3,37). When each department is taken into consideration, it is seen that student teachers from the ELT department form the less anxious group among all groups (Mean=3,14). On the other hand, student teachers from the French Language Teaching department were the most anxious group (Mean=3,77).

In order to find out whether there were any significant differences among the anxiety levels of the student teachers from different departments at the end of the practicum, a one-way ANOVA was conducted (Table 4).

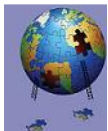
Table 4. One-way ANOVA Results for Differences among Seven Departments

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	16,083	6	2,680	4,787	,000
Within Groups	190,924	341	,560		
Total	207,007	347			

P<0,05

As Table 4 presents, there was a significant difference among the level of anxiety of student teachers from different departments (F= 4,787, p<.05).

Moreover, in order to see the specific differences among the departments, a *post hoc* test was run. As the homogeneity of variance assumption was not met [Levene's test was significant (p= .004, p<.05)], Tamhane's multiple comparison test was run to see the specific differences among the departments. The analyses revealed that the differences between English Language Teaching and German Language Teaching (p=.017, p<.05), English Language Teaching and French Language Teaching (p=.001, p<.05), and English Language Teaching and Social Sciences Teaching (p=.017, p<.05) were significant.

**The Relationship between the Two Administrations of the STAS:**

In order to find out whether there was a significant difference between the anxiety levels of the student teachers at the beginning and at the end of the practicum process, a paired samples t-test was run (Table 5).

Table 5. Paired Samples t-test Results

	N	Mean	SD	t	Sig. (2-tailed)
First Implementation-Second Implementation	348	,096	,89	2,013	,045

P<0,05

As Table 5 presents, there was a significant difference between the two administrations, that is to say, the student teachers, regardless of department, were significantly less anxious at the end of the practicum.

Furthermore, in order to find out the departmental changes between the two administrations, a 7X2 Mixed-design ANOVA with seven departments and two times of administration was conducted. The analysis showed that there was a significant difference when time*department relationship was considered [F= 6,96, p<0.05]. In other words, student teachers from ELT department were having considerably lessened levels of anxiety together with student teachers from Computer Education and Instructional Technologies department, who tend to show a slight decrease as well. All other student teachers, on the other hand, were experiencing similar or higher levels of anxiety at the end of the practicum.

DISCUSSION AND CONCLUSIONS

In order to find out the level of anxiety of student teachers from different majors of study at the beginning of the practicum, 403 student teachers were given a 'Student Teacher Anxiety Scale (STAS) before they started teaching practice. The descriptive analysis of the quantitative data showed that student teachers answering the scale were moderately anxious with a tendency to be highly anxious about the items in the scale at the beginning of the practicum (Mean=3,44). Furthermore, the analysis showed that the most anxious groups of student teachers were from English Language Teaching and Social Sciences Teaching whereas the lowest level of anxiety belonged to Mathematics Teaching for Primary School.

In addition to the descriptive findings, the results of the statistical analysis revealed that there was a significant difference among the level of anxiety of student teachers from different departments. In a more detailed analysis, it was found that there was a significant difference between the anxiety levels of student teachers from English Language Teaching and Mathematics Teaching for Primary School. To explain further, student teachers from the English Language Teaching program were significantly more anxious than student teachers from Mathematics Teaching for Primary School program. Moreover, the analysis revealed that the anxiety level of student teachers from English Language Teaching department at the beginning of the practicum was significantly higher than all other student teachers from the other disciplines. Similarly, when all language-related fields are considered (English Language Teaching, French Language Teaching, and German Language Teaching), the student teachers who are supposed to teach a foreign language had significantly higher levels of anxiety than student teachers from the aforementioned programs. Although literature does not suggest any findings related to the possible differences between the level of anxiety of student teachers of English Language Teaching program and the other programs or the differences between the level of anxiety of student teachers from Foreign Language Teaching programs and other programs, a general conclusion can be made about the significant differences among student teachers from various disciplines.

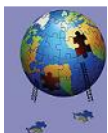


In order to find out the level of anxiety of student teachers from different majors of study at the end of the practicum, the STAS was administered to the same group of students once again at the end of their teaching practice experience. The descriptive analysis of the quantitative data, this time, showed that student teachers answering the scale were moderately anxious with a tendency to be highly anxious about the items in the scale at the beginning of the practicum (Mean=3,37). This finding provides us with the information that student teachers were still experiencing anxiety although they almost completed their teaching practicum and delivered a number of lessons as well as making in-class observations of their cooperating teachers and peers. Furthermore, the analysis showed that the most anxious groups of student teachers at the end of the practicum were from French Language Teaching, and the lowest level of anxiety belonged to student teachers of ELT department. Moreover, the anxiety level of student teachers from ELT department at the end of the practicum was significantly lower than all other student teachers from the other disciplines.

The overall findings related to the levels of anxiety is no surprise bearing the fact in mind that teaching practicum is one of the most important component of the teacher education programs albeit being the most stressful part as well (MacDonald, 1992). The findings of this study related to the levels of anxiety correlate with the previous studies which found that student teachers were moderately anxious about practice teaching before they start teaching as practitioners (Capel, 1997; Çakmak, 2008). Also, specific studies in the field have proved that when the subject matter differences are scrutinized, teachers (Murray-Harvey et al., 1999) and student teachers may diverge from each other in terms of the level and types of the anxiety they experience (Preece, 1979; Ngidi&Sibaya, 2003; Çakmak, 2008). As for the differences across disciplines, the observed difference might be due to the fact that each department looks at the implementation of the practicum process from different perspectives, and that there is not a consistency in the organization of the teaching practice among departments and in certain cases within a department itself (Paker, 2000).

Although the mean scores for the two administrations of the STAS look similar to each other (M=3,44 and M=3.37 respectively), statistical analysis showed that student teachers' anxiety at the beginning and at the end of the practicum were significantly different from each other. In other words, the student teachers, regardless of their program, were less anxious in the second administration. This finding can be explained by considering the fact that student teachers are gaining a sort of teaching experience throughout their teaching practicum (Pigge&Marso, 1987; Gardner & Leak, 1994; Merç, 2004). Furthermore, Gardner and Leak (1994) asserted that although teachers experience much of their anxiety at the beginning of their teaching, intensely on the first day, an early exposure to anxiety may result in "inappropriate behavior that reduces teaching effectiveness throughout the individual's career" (p. 30). This can be supported with the widely accepted notion concerning the novice vs. expert teacher behavior. It is evident that novice teachers use exact course objectives to shape structured lesson plans whereas expert teachers' decision-making skills are formed according to the needs of the learners together with planning (Westerman, 1991). Therefore, the student teachers in our context, as novices, might be trying to structure their lessons very strictly at first, later might be slightly moving to better and more flexible lessons through time.

Further analysis, on the other hand, demonstrated that the reason for the significant decline in the level of anxiety experienced by student teachers was due to the effect of the change in the scores of the student teachers from 'English Language Teaching' program as well as a very slight increase observed in the scores of student teachers from 'Instructional Technologies and Computer Teaching' program. The anxiety level of the remaining student teachers from other programs such as German Language Teaching, French Language Teaching, Primary School Teaching, Social Sciences Teaching, and Mathematics Teaching for Primary Schools showed an increase from the beginning to the end of the practicum. This is an interesting result when the context of the study is considered. Although the teacher training policies are similar in terms of the lessons taken, times for teaching, and placement in the practicum schools, some students are said to be making use of their teaching practicum more effectively than others. The student teachers from the English Language Teaching program and the



student teachers from Instructional Technologies and Computer Teaching program (to some extent), in a similar perspective, were using the practicum process as a means to reduce their teaching anxiety. On the other hand, students from other disciplines were still suffering from the teaching anxiety. They seem that they are still experiencing the symptoms of the reality shock.

In order to predict the above-mentioned findings, the researcher conducted further interviews with the implementers and/or coordinators of the seven programs as the student teachers in this study come from. It was noted that student teachers from six programs including German Language Teaching, French Language Teaching, Primary School Teaching, Social Sciences Teaching, Instructional Technologies and Computer Teaching, and Mathematics Teaching for Primary Schools did not deliver any lessons during their microteaching experience. They only observe their cooperating teachers, write reports of observation, prepare worksheets, and internalize the class and school rules. On the other hand, student teachers of the English Language Teaching were delivering lessons by sharing a class-hour with their peers. Therefore, the appearing difference might be the result of the higher levels of teaching experience of the student teachers from the English Language Teaching program, which helped them have a diminished level of student teacher anxiety at the end when compared to the beginning of the practicum process.

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