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"What concerns pre-service teachers the most?": A quantitative research for concurrent and consecutive teacher training methods.

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"WHAT CONCERNS PRE-SERVICE TEACHERS THE MOST?": A QUANTITATIVE RESEARCH FOR CONCURRENT AND CONSECUTIVE TEACHER TRAINING MODELS

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In the Republic of Turkey, as in many other countries, there are primarily two types of teacher preparation. One is the concurrent model, where a student spends four to five years at university in an Education faculty, learning to become a school teacher. The second is the consecutive model, where university seniors and/or graduates of the Arts & Sciences faculty attend a one-year pedagogical formation certification programme to become qualified as a teacher. Only authorized Education faculties are eligible to provide these types of pedagogical formation education. Students attending an Education faculty through the concurrent model, take several pedagogical and practicum courses over a four-year period, while the students in the consecutive model only take a portion of the pedagogical courses and then complete a teaching practicum during the second semester of the year-long programme. This current study is based on the idea that along with professional competencies, psychological readiness for teaching is also affected by teacher education and training. Thus, in this study, the pre-service teachers' concerns about teaching were analyzed as well as whether their concerns differed according to programme type, gender, and/or field of study. Data from a Teacher Concerns Checklist (TCC) completed by 545 pre-service teachers was analysed through descriptive statistics as well as multivariate analysis of variance (MANOVA) and one-way analysis of variance (one-way ANOVA). It was revealed in the analysis results that students from the concurrent model of teacher education were most concerned about the lack of public support for schools, insufficient clerical help for teachers, and the large number of administrative interruptions. While, the students from the consecutive teacher education model were most concerned about having too many students in class, lack of public support for schools, and too many standards and regulations for teachers to follow. Overall, the students from the concurrent model had significantly fewer concerns about teaching than students from the consecutive model. The field of study did have a significant effect on the concerns of preservice teachers; whereas, gender had no effect.

Keywords

Pre-service teachers; teaching concerns; initial teacher education; teacher training models.

Introduction

Over the past few decades, considerable research attention has been given to teachers' professional development. Also, there have been a myriad of ways that its importance within educational systems has been studied in the research (Avalos, 2011; Hamilton, 2020). Increasingly, it has been recognised that the quality of an educational system can be no better than the quality of its teachers (Barber & Mourshed, 2007). In addition, it can be explained that the growing interest in teachers' professional development is due to the current global climate of fast-paced educational change. Teachers are expected to develop new knowledge and skills to be responsive to the expectations that they should continually adapt and keep up with new information and practices (Bahr & Mellor, 2016). However, teaching is an elaborate activity and it is affected by many factors, not just the agendas of those seeking for changes in teaching practices. For examples, factors such as teachers' knowledge, beliefs, concerns regarding classroom management and meeting external demands are important. (Timperley, 2008). Ashton and Gregoire-Gill (2003) state that "in the case of deeply held beliefs, such as many of the entering beliefs of pre-service teachers, the original beliefs are not replaced but rather continue to

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influence their thoughts and behaviors” (p. 102). Fuller (1969) states that to guarantee effective development, it is critical that the concerns of teachers are accurately assessed.

Assessment of teaching concerns

In the literature regarding teacher development, Frances Fuller’s (1969) study plays a pivotal role and forms the basis of several subsequent studies. In her research Fuller (1969) studied the concerns of pre-service teachers regarding their teacher education programmes. In particular, what kinds of concerns pre-service teachers experienced as they progressed through their teacher education programmes was of interest. She also documented and analysed the related findings in the literature to better understand and develop ways to address their concerns. Ultimately, a three-staged model of concerns was proposed which included a pre-teaching phase, an early teaching phase, and a late teaching phase (Alshammari, 2000). Out of this work, the idea that teachers’ concerns tended to move through a pattern from focusing first on self, then on teaching tasks and situations, and finally the effects on students was suggested (Hagger & Malmberg, 2011). It has been proposed that these stages are sequential and reveal a developmental pattern that occurs in a teacher’s professional life. In other words, in a new situation requiring interaction with other people, a teacher is initially most concerned about him/herself and the demands made upon him/her by the new situation. Only when these initial concerns about self are addressed does the teacher become concerned about the task of teaching and then ultimately about meeting the needs of individual pupils (Yalçın, 2014). The framework established in Fuller (1969) has provided the basis for subsequent researches regarding the nature of teacher concerns (Christou et al., 2004). Also, a number of studies have been conducted to substantiate, extend and develop on the types of concerns and their relationships with different aspects of teachers (Mok, 2005). Although the scale from Fuller’s (1969) study may seem out-dated, it continues to be adapted and utilised in a variety of recent studies from around the world (Alshammari, 2000; Boz, 2008; Byrne & Prendergast, 2020; Kokkinos et al., 2016).

As Fritz and Miller (2003) state, teachers can experience concerns related to teaching throughout their teaching career, but these concerns may become more intense during their student teaching as well as the initial years in their new role. If what concerns teachers before and after they start the profession can be pre-detected, then better options for enhancing both teacher education and the context of teaching can potentially be offered. In Turkey, pre-service teachers receive their teacher education through either a four-year undergraduate programme at the faculties of Education or students from Arts & Sciences faculties can earn a teaching certificate through a one-year pedagogical formation programme. Therefore, the main aim of this study was to determine whether pre-service teachers’ concerns change according to their programme types based on Fuller’s (1969) model of teacher development. Thus, attempts were made in this study to answer the following questions:

1. What type of concerns about teaching do Turkish pre-service teachers have?
2. Is there a significant mean difference of pre-service teachers’ concerns about teaching in terms of programme type, gender and field of study?

Method

Research design and data analysis

Descriptive statistics are techniques where raw data are arranged and/or summarized into a form that is more manageable. Usually the statistical scores are organized and presented in a table or a graph for ease of understanding and use. Summarising a set of scores by computing an average is another common technique utilised because the average provides a single descriptive value for the entire set (Gravetter & Wallnau, 2007). This current study was descriptive in nature and descriptive statistics (arithmetic averages and standard deviations) were calculated to answer the research questions regarding pre-service Turkish teachers’ concerns about teaching. In addition, to determine the effects of demographic variables on pre-service Turkish teachers’ teaching concerns, a *t*-test and one-way analysis of variance (ANOVA) were applied to unrelated samples. Next, multivariate analysis of variance (MANOVA) tests

were conducted to determine whether significant differences occurred between the scores obtained from pre-service teachers regarding their characteristics such as programme type, gender and/or field of study.

Participants

The study group consisted of pre-service teachers who were completing their teacher education programme during the spring semester of 2017. The study was carried out in two different Education faculties in Ankara, Turkey. The total number of participants in this study was 545, with 175 of them being seniors from departments at one state university, and the other 370 were students attending pedagogical formation programme at two state universities. The fields of study of the participants as well as the number of students studying in each field are shown in Table 1.

Table 1: Fields of Study

Languages	Social Sciences	Sciences
English Language and Literature (40)	History (24)	Chemistry (33)
German Language and Literature (6)	History Edu. (25)	Chemical Education (17)
German Language Education (40)		Biology (51)
French Language and Literature (6)		Biology Education (21)
French Language Education (33)		Physics (4)
Turkish Language and Literature (148)		Physics Education (10)
Turkish Language and Literature Education (25)		Mathematics (58)
		Mathematics Education (4)

As can be seen in Table 1, the Teacher Concern Checklist (TCC) data collection instrument was administered in eight departments that were similar except for English Language Education. To clarify, the TCC was not administered in the English Language Education department due to lack of approval. The demographic features for the study participants are provided in Table 2.

Table 2: Demographic Features of the Study Group

	Features	n	%
Gender	Female	439	81
	Male	106	19
Faculty	Education	175	32
	Arts and Sciences	370	68
	Languages	294	54
Fields of Study	Social Sciences	50	9
	Sciences	201	37
	Total	545	100

As can be seen in Table 2, the number of female participants outnumber the males. This may be attributed to a historically higher number of females pursuing a career in education and teaching (Carrington & McPhee, 2008; Drudy, 2008; Steinberger & Magen-Nagar, 2017). Additionally, the fact that some students were unwilling to participate in this study as well as the number of students enrolled in programmes, such as Physics, German/French Language and Literature being low, may be other important reasons for the observed gender imbalance in participant numbers. Furthermore, these factors may also be regarded as the most apparent limitations of this study. Because some fields of the study

were not common in both Education faculties, only the fields that have correspondence programmes in pedagogical formation, like Chemistry and Chemical education, were chosen.

Research instruments and procedures

The data collection instrument utilised in this study was the Teacher Concerns Checklist (TCC), developed by Borich (1992). The TCC is used to measure teaching concerns organised in terms of self, task and impact. It contains 45 statements, 15 for each type of concern, in a five-point Likert scale format which includes a scale from: 1. Not concerned, 2. A little concerned, 3. Moderately concerned, 4. Very concerned, and 5. Completely preoccupied. Importantly, the TCC has been found to be an exceptionally reliable and valid instrument for determining concerns about teaching (Rogan et al., 1992). Boz (2008) translated the TCC into Turkish and then applied it to Turkish students following validation of the instrument.

Validation of the instrument

The validation of the instrument was completed by carrying out factor analysis. Next, to determine the reliability, Cronbach Alpha internal consistency coefficient was calculated. The Cronbach Alpha values were .89 for self, .81 for task, and .91 for impact. The determined values revealed that this instrument was reliable. Finally, in this study, a pilot test of TCC which had been translated into Turkish by Boz (2008) was conducted in 2016 with 300 pedagogical formation students.

Results

In this part, the data concerning the prospective teachers' professional concerns are tabulated and interpreted according to the research questions.

1. What type of concerns about teaching do Turkish pre-service teachers have?

In order to determine the concerns about teaching that pre-service teachers involved in this study had, the mean scores for each concern subscale -self, task, and impact- were calculated. The higher the score in each category of concern (i.e., self-, task- and impact-related concerns), the more concern the pre-service teacher had regarding the particular category in question. Analysis using descriptive statistics was utilised to determine the mean scores for each factor as well as each item of teaching concern. Mean scores regarding the self, task, and impact-related concerns for the participating pre-service teachers are presented in Table 3.

Table 3: Mean Scores of Self, Task, and Impact-Centred Concerns of all the Participants

Self-concern	Task-concern	Impact-concern
2,08	2,35	2,10

It can be seen from the overall mean scores presented in Table 3, that regardless of their programme type, gender or field of study, the pre-service teachers had a higher-level of task-related concerns than they did impact and/or self-related concerns.

To more clearly understand which items the most concerned the university seniors from the Education faculty who were part of the concurrent teacher education model, the frequency of concerns for each item was calculated. The mean scores for the five highest ranked concerns of the Education faculty students are provided in Table 4.

Table 4: Mean Scores of 5 Highest Ranked Concerns of Education Faculty Students

	Self-concern	Task-concern	Impact-concern
Lack of public support for schools.		2,61	
Insufficient clerical help for teachers.		2,58	
The large number of administrative interruptions.		2,55	
Too many standards and regulations set for teachers.		2,54	
The inflexibility of the curriculum.		2,51	

As is shown in Table 4, the pre-service teachers who were students from Education faculty studying under the concurrent model of teacher education were primarily concerned about task-based concerns such as a lack of public support for schools, the large number of administrative interruptions, and the inflexibility of the curriculum. Importantly, these concerns primarily reflect the context of teaching regarding the Turkish classroom and/or curriculum.

Table 5: Mean Scores of 5 Highest Ranked Concerns of Pedagogical Formation Programme Students

	Self-concern	Task-concern	Impact-concern
Having too many students in a class.		2,59	
Lack of public support for schools.		2,54	
Too many standards and regulations set for teachers.		2,53	
The rigid instructional time.		2,51	
Having an embarrassing incident occur for which I might be judged responsible.	2,50		

As can be seen in Table 5, and similar to the Education Faculty students concerns, Pedagogical Formation Programme students primarily had task-centred concerns about teaching. It appears that the Pedagogical Formation Programme students' concerns resulted primarily from the structure of the Turkish education system.

2. *Is there a significant mean difference of pre-service teachers' concerns about teaching in terms of programme types?*

Table 6: MANOVA Results for Teacher Concerns by Faculty

	(A) Faculty	(E) Faculty	Mean Difference	Std. Error	Sig.
Self	Arts and Sciences	Education	.054	.032	.093
Task	Arts and Sciences	Education	.065	.026	.013
Impact	Arts and Sciences	Education	.028	.033	.394

It was revealed in the MANOVA analysis of this study that the programme types did have a significant effect on pre-service teachers' concerns about teaching (Wilks' $\Lambda = .99$, $F(3, 545) = 3.15$, $p < .05$, $\eta^2 = .02$). To understand the effect of the programme types regarding their teaching concerns, one-way ANOVA for each dependent variable (teaching concerns) was conducted. It was revealed in the ANOVA analysis that there was a statistically significant effect regarding the faculty of study on task-related teaching concerns ($F(1, 545) = 6.18$, $p < .05$, $\eta^2 = .01$). It is believed that this effect may be related to a lack of prior knowledge and skills that will ultimately be acquired through the pedagogical formation programme. While students attending courses in the concurrent teacher education model as part of the Education faculty take pedagogical courses over the span of four years of university education, students from the consecutive teacher education model take a portion of these courses within only two terms as well as participate in teaching practicum.

3. *Is there a significant mean difference of pre-service teachers' concerns about teaching in terms of gender?*

Table 7: MANOVA Results for Teacher Concerns by Gender

	Gender	Gender	Mean Difference	Std. Error	Sig.
Self	Male	Female	.005	.038	.892
Task	Male	Female	.041	.031	.184
Impact	Male	Female	.051	.039	.189

In Table 7, the MANOVA results for the effect of gender on the participating pre-service teachers' concerns about teaching are provided. Importantly, a close examination of the results provided in Table 7 reveals that there were no statistically significant differences between male and female pre-service teachers regarding their concerns about teaching (Wilks' $\lambda = 0.99$, $F(3, 545) = 2.44$, $p > 0.05$, $\eta^2 = 0.01$).

4. Is there a significant mean difference of pre-service teachers' concerns about teaching in terms of their field of study?

Table 8: MANOVA Results for Teacher Concerns by Fields of Study

		Fields**	Mean Difference	Std. Error	Sig.
Self	Tukey HSD	2	-.069*	.039	.013
		3	-.009	.033	.956
		2 3	.101*	.038	.023
Task	Tukey HSD	2	-.078*	.032	.038
		3	-.033	.027	.452
		2 3	.045	.031	.326
Impact	Tukey HSD	2	-.052	.040	.402
		3	.029	.035	.685
		2 3	.081	.040	.105

**1= Sciences, 2=Languages, 3=Social Sciences

It can be seen in Table 8, that field of study did have a significant effect on the pre-service teachers' teaching concerns (Wilks' $\Lambda = .96$, $F(6, 1080) = 3,49$, $p < .05$, $\eta^2 = .02$). Due to the significant MANOVA result, the next step was to understand the effect of the field of study on the teaching concerns. Therefore, one-way ANOVA for each dependent variable (teaching concerns) was conducted. Importantly, it was revealed through the analysis that a statistically significant effect of year on self and task-related teaching concerns occurred, but no significant effect of field of study on impact-related teaching concerns was determined ($F(3, 545) = 6.18$, $p < .05$, $\eta^2 = .01$).

Discussion

The main aim of this study was to determine pre-service teachers' concerns about teaching and if their concerns differed according to variables such as programme type, gender, and/or field of study. Upon examining the distribution of pre-service teachers' teaching concerns, it was found that pre-service teachers, from this sample, had more task-related teaching concerns than they did for self and impact concerns. The examples of task-related concerns expressed by pre-service teachers in this study were a lack of public support for schools, having too many students in class, too many standards and regulations placed on teachers, the large number of administrative interruptions, and the rigid constraints regarding instructional time. Similarly, the finding that pre-service teachers had more task-related concerns is in agreement with the findings from previous studies (Atmaca, 2013; Boz, 2008). Ironically, these findings seem to be reflection of Turkish schools in which classrooms are relatively crowded, teachers have to deal with volumes of paperwork, there is a fixed and heavy curriculum load. In some circumstances having inflexible choices regarding curriculum, overcrowded classrooms, and rigid outlines for instruction have been found; whereas, the results from some studies in the United States and the Netherlands run counter to these findings for task-related concerns (Fritz & Miller, 2003; Swennen et al., 2004). Instead, students in these international studies primarily expressed concerns mostly about their self-adequacy, their pupils, and the learning success of their pupils. It appears the contrast between these studies and the current study may be attributed to the differing contexts from each country.

It was determined that the pre-service teachers participating in this study simultaneously experienced both self and impact-related teaching concerns. Interestingly, their concerns did not show a sequential and developmental pattern, which is a finding that contrasts with Fuller's (1969) model where teaching concerns were found to follow a sequential pattern, starting from self to task and then finally impact-related concerns. There are some other studies that also only partially aligned with Fuller's theory, where it was determined that through proper education and the appropriate amount of teaching

experience, teachers' self-related concerns decreased while their task-related concerns increased (Pigge & Marso, 1997; Rogers & Mahler, 1994). However, the findings from the studies about the stability of impact concerns due to gaining more teaching experience are contrary to what was presented in the Fuller (1969) model. Furthermore, there are findings from several more recent studies (Boz, 2008; Capel, 2006; Swennen et al., 2004) that are parallel to the findings from this current study that rather than chronologically, instead concerns about teaching are recurring as well as experienced concurrently.

Among the participants in this study, the pre-service teachers who were received education in the concurrent model, namely the senior-level university students attending an Education faculty, had significantly fewer teaching concerns in comparison to the students who attended pedagogical formation programme through the consecutive teacher education model. This finding may be related to a perception, as confirmed by Levine (2006) that educational faculties are the most appropriate place for education those entering the teaching profession.

An evaluation of the levels of concern about teaching based on the gender revealed that the factor of gender did not have a significant effect on the pre-service teachers' levels of self, task and impact-related concerns. Importantly, this finding was consistent with the findings from several other studies (Atmaca, 2013; Boz, 2008; Fritz & Miller, 2003; Yalçın, 2014). However, what was not consistent with the findings from these studies was that the male pre-service teacher participants had more concerns than the female participants with the exception of self-concerns from the pedagogical formation students.

Also, an evaluation of the levels of concern about teaching based on the field of study revealed that it significantly affected the pre-service teachers' levels of self and task-related concerns. Therefore, it was clear that the field of study did have had a significant effect regarding the concerns of pre-service teachers in this study. As a result, it seems important that determining pre-service teachers from which departments have the most concern as well as why they have more teaching concerns should be investigated through a larger sample in the future. Also, the use of qualitative research in future studies can aid in gathering more detailed information about participants' teaching than was ascertained from the quantitative nature of this current study.

Some view that there is problem with quality of education in teacher preparation. In other words, those teachers who complete teacher education programmes leave university with an insufficient level of the appropriate knowledge and practices needed to be an effective teacher in contemporary classrooms (Liston, Borko & Whitcomb, 2008). In accordance with this view, pre-service teachers in this current study were primarily mostly concerned about task-related issues such as crowded classrooms, excessive administrative interruptions, inflexible curricula and rigid instructional outlines that are commonplace in Turkey. As noted in the OECD (2009) review of teacher policy, the biggest challenges facing beginning teachers are remarkably similar across all European countries, for examples, motivating students to learn, classroom management issues, and assessing students' work. As a result, it is evident that issues regarding classroom management measurement and evaluation as well as creating independent and creative learning environments are teaching concerns that almost all teachers have worldwide.

Finally, as Saunders (2015) suggests, within the area of teacher development, educational change may be the sole constant of the current century. Adjusting to and keeping up with the rapid change as well as embracing new ideas has become an absolute necessity for educators. So, to improve their practices and alleviate their concerns and/or potential teaching concerns, teachers should continually strive to better themselves, regulate their practices and ultimately play an active role in the teaching and learning process.

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