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Research Article

Can I Grow Up as an Effective Teacher? A Mixed Method Study

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Abstract

The aim of this study is to determine the predictive role of pre-service teachers' views on professional teaching knowledge courses on their satisfaction levels in relation to faculty of education. In the study, sequential transformative design, which is one of the mixed methods, was used. Faculty of Education Course Evaluation Scale and Faculty of Education Satisfaction Scale were applied to 404 pre-service teachers who were selected with stratified sampling method. Study results indicate that pre-service teachers' total course evaluation scores vary according to gender, class level and department and, total faculty of educations satisfaction level scores vary according to department. In addition, it was determined that there are weak relations among sub-dimensions of variables as a result of correlation analysis; and the predictive role of pre-service teachers' views on professional teaching knowledge courses on their satisfaction levels in relation to faculty of education is weak as a result of regression analysis. Results of the interviews indicate that pre-service teachers' views on professional teaching knowledge courses vary according to groups, but pre-service teachers have similar views in relation to faculty of education. At the end of the study, suggestions were offered for increasing the efficiency of the pre-service teachers.

Keywords

Professional teaching knowledge courses • Faculty of education satisfaction • Efficiency • Pre-service teachers • Instructors

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Teaching is a profession that incorporates artistic features as well as professional skills. It requires creativity and having different perspectives and being able to inspire different perspectives. Teaching is not conducting an orchestra. It does not mean making harmonic sounds with a single movement, but creating a harmony with different sounds. There is no need to be over qualified to fulfil the tasks given in items; teaching means having the courage and strength to go beyond these tasks.

Teachers have a significant impact directly or indirectly on all kinds of regulation, change and improvement in relation to all shareholders in the education process. When it comes to the efficiency and productivity of educational institutions, ignoring this impact of teachers constitutes a big obstacle for achieving desired goals and targets. For that reason, it is quite important that taking teachers' impact into consideration in all processes related to education and positive features are added to this impact.

The behaviour of teachers has an impact on students. All verbal and non-verbal behaviours of the teachers are quite effective on the cognitive (Powell & Harville, 1990), affective (Butland & Beebe, 1992) and behavioural (Christensen & Menzel, 1998) development of students. By means of this impact, teachers can contribute in cognitive, affective and behavioural learning of students even only with their behaviours (Gorham & Christophel, 1990).

As teachers' behaviours affect students' performance directly (Brophy & Good, 1986), students' academic and behavioural achievements or failures are considered as a process that teachers are responsible for. Due to this strong impact on learning, it is important that teachers have pre-service and in-service training that will raise awareness about the power of teachers' personal and professional behaviours. Especially at faculties of education, pre-service teachers should be equipped with the knowledge and skills required by the teaching profession within the scope of pre-service education at the top level. Because; one of the first factors questioned when problems arise in relation to education and teaching, is the teachers and the education they had.

In assessments conducted by Programme for International Student Assessment (PISA) on an international level and by the National Assessment of Educational Progress (NAEP) on the national level, the American Education System could not achieve the desired results in relation to students' success. Students' success below the desired level increased discussions about teachers' competence levels. The focus point of the discussions is the people who choose the teaching profession and the pre-service education they had. As people with lower levels of academic achievements rather than the ones with higher academic achievements choose teaching professions, universities accept these people with easily accessible enrolment standards and expectations are low from these people in the education process; it is thought that pre-service teachers could not be equipped with effective teaching skills (L. Stein & A. Stein, 2016).

While these discussions continue in America which is on OECD average in science literacy and reading skills, but below OECD average in mathematics literacy (Organization for Economic Co-operation Development [OECD], 2015) according to PISA 2015 results; in Turkey, which is below OECD average in science literacy, reading skills and mathematics literacy (Ministry of National Education [MEB], 2016a); below participant countries' average in Trends in International Mathematics and Science Study (TIMMS) (Büyüköztürk, Çakan, Tan, & Atar, 2014), the first implementation of Academic Skills Monitoring and Evaluation (ABIDE) study was conducted on a national level and results in relation to 8th grades were published in Turkey in 2016 considering that PISA and TIMMS data would not be adequate alone (MEB, 2016b). Results match PISA 2015 and TIMMS 2015 data and verify each other. For that reason, discussions are also needed in Turkey in relation to whether teachers are equipped with effective teaching skills in the pre-service education processes.

From past to present, the teaching profession was explained by "traditional professionalism" concept in Turkey and the teacher is defined as the person who knows teaching and learning activities and whose knowledge is trusted (Ünal, 2011, p. 16). Nevertheless, the process of training teachers has always remained on the agenda and become the subject of many regulations, criticisms and discussions. One of the most radical changes in training teachers is the Decree Law No 41, which was published in 1982. With this law decree, training of teachers who will work at elementary and high schools was assigned to faculties of education within universities and the scientific content of the programs was strengthened. Training of classroom teachers for primary schools was assigned to faculties of education in 1992. Later, radical changes were made in the structure of faculties of education and teacher training programs with the Council of Higher Education (YÖK) and the World Bank Pre-service Teacher Training Project in 1997. With this regulation, it was claimed that teachers are inadequate in terms of field information acquisitions and the number of courses within the scope of field information was increased and the number of courses within the scope of educational sciences, which forms the essence of the teaching profession was decreased. This regulation provided that teachers, who are relatively well-equipped in terms of field information, but could not learn how to teach, are included in the system and that it is thought that the aim of the teaching profession is only to convey the field information. These teachers who are weak in education sciences think that their only liability is to enter the classroom and give a lesson (Ünal, 2011). With the most recent change in 2018, courses on field education and professional teaching knowledge were restructured, and the weight of courses on professional teaching knowledge was increased along with teaching applications were structured and applications were extended over a time period and undergraduate programs were adapted to the course programs implemented by the Ministry of National Education (MEB) (Council of Higher Education [YÖK], 2018).

Pre-service teachers who are trained as teachers at faculties of education need to sit courses on field information, professional teaching knowledge (pedagogical formation) and general culture. Although it may vary according to teacher training programs at faculties of education, the density of field information courses in the program is 46-52%; the density of professional teaching knowledge is 31-34% and density of general culture courses is 13-19% (YÖK, 2018). As it can be understood from the density of courses, field information has a significant place in the teaching profession. The studies conducted (İhtiyaroğlu, 2014a, 2014b) indicate that the perception of teacher and student in relation to the most important professional features of effective teachers is in that direction. However, being well-equipped in terms of field information is not adequate alone to become an effective teacher today. Effective teachers also need to have various skills, attitudes and behaviours such as communication, cooperation, problem solving, decision making, critical thinking and creativity (OECD, 2011). Pre-service teachers acquire these skills, attitudes and behaviours with the courses within the scope of courses on professional teaching knowledge. No matter how strong their field information is, it is not possible to say that teachers, who could not have the acquisitions of professional teaching knowledge courses, are effective (Ada & Baysal, 2013). As teachers learn how to convey their information in the field to the students by means of these courses, it is quite important to achieve the acquisitions of these courses on the highest level.

The overall aim of professional teaching knowledge courses is to prepare pre-service teachers to the teaching process in the best equipped manner. However, each course has its own learning outcomes. Learning outcomes of professional teaching knowledge courses were given in Table 1. With these outcomes, teachers who are adequate in terms of field information thrive in the teaching profession.

As seen in Table 1, pre-service teachers acquire effective teaching skills by having many competencies on different dimensions. Based on the fact that an individual is a social entity, social cognitive theory explains learning as mutual interaction of individual, environmental and behavioural factors. This interaction takes place by individuals observing each other and take each other as models (Bandura, 1967). For that reason, instructors who prepare pre-service teachers for the teaching profession are expected to have effective teaching skills to set an example (Asia Society, 2011).

Cognitive, effective and behavioural changes that teachers create in students have been the subject of numerous studies in which primary and high school teachers were chosen as the population and these studies pointed out the impact of teachers' behaviours, skills and attitudes on the students (Bakioğlu & Salduz, 2014; Geçer & Deryakulu, 2004; Gersten, Walker, & Darch, 1988; Goldman, Botkin, Tokunaga, & Kuklinski, 1997; Sezer, 2018; Tulunay Ateş, 2016). Despite this impact of teachers

Table 1
Learning Outcomes of Professional Teaching Knowledge Courses

Courses	Learning Outcomes
Turkish Education System and School Management	Knows general structure of the Turkish education system. Knows objectives of the Turkish education system. Knows how to carry out effective school management.
Turkish Education History	Knows the education features of Turkish states found before Islam. Knows the education features of Turkish states found after Islam. Makes general evaluation of Turkish education history.
Teaching Technologies	Knows basic concepts about teaching technologies. Knows features of technological devices commonly used in the teaching environment. Evaluates computer-assisted education software.
Class Management	Improves rules on class management and discipline. Determines physical features of the classroom environment. Finds solutions to behavioural problems occurring in the classroom.
Education Sociology	Knows basic concepts about education sociology. Establishes relationship between education and society. Knows the relationship between social change and education.
Education Management	Knows the relationship between organization and individuals. Knows the steps of management process. Knows the features of an effective manager.
Education Philosophy	Knows basic concepts about philosophy. Knows the features of philosophical foundations that education movements are based on. Knows education philosophers.
Education Psychology	Knows that each development period has different features. Knows factors that affect learning. Knows the relationship between development and learning.
Guidance at Schools	Knows guidance and psychological counselling techniques. Plans guidance activities suitable for classrooms/individuals. Knows effective study methods.
Introduction to Education	Knows basic concepts about education. Knows research methods in educational sciences. Knows qualifications required by the teaching profession.
Teaching Principles and Methods	Knows the criteria for creating teaching objectives. Knows basic principles of teaching. Knows modern teaching methods and techniques.
Assessment and Evaluation in Education	Knows the importance of assessment and evaluation in education. Uses alternative (authentic) assessment tools. Knows evaluation types.
Special and Inclusive Education (YÖK, 2014)	Knows basic concepts about special and inclusive education. Plans learning activities suitable for special and inclusive education students. Knows the importance of all shareholders in special and inclusive education.
Research Methods in Education (YÖK, 2014)	Knows education and research concepts. Knows research steps. Knows research results.

Source: (Ada & Baysal, 2013).

on students, similar studies which evaluate the impact of instructors at universities on pre-service teachers are quite limited.

As mentioned above, changes in education faculties have always been structural and these changes were expected to be adapted to internal processes. However, whether instructors at education faculties provide pre-service teachers with effective

teaching skills should be the topic of a separate discussion independent from all external factors. Because; it is quite important that pre-service teachers, who are expected to acquire effective teaching skills, are interacting with instructors who exhibit behaviours in that direction. Especially the instructors who give professional teaching courses are expected to be aware of their impact on pre-service teachers and exhibit role model behaviour to them.

From this expectation, this study aims to investigate the views of pre-service teachers studying at education faculties on professional teaching knowledge courses, and the relationship of these views with education faculties satisfaction levels. Study results may bring a different perspective to discussions about teacher training processes, raise awareness about questioning role model behaviours of instructors and change the focal points of politicians about teacher training process. To achieve this aim, answers were sought for the following questions in the quantitative aspect of the study:

1) What are the pre-service teachers' views on the approach to teaching, use of resources, feedback and evaluation processes and self-evaluation in professional teaching knowledge courses?

2) What are the pre-service teachers' general satisfaction levels in relation to instructors, consultancy services, management, resources, computer opportunities, courses and curriculums at education faculties?

3) Do the pre-service teachers' views on professional teaching knowledge courses and their satisfaction levels in relation to education faculty vary according to

   a) Gender
   b) Class level
   c) Department?

4) Is there a significant relationship between pre-service teachers' views on professional teaching knowledge courses and their satisfaction levels in relation to education faculty?

5) Are the pre-service teachers' views on professional teaching knowledge courses a significant predictor of their satisfaction levels in relation to education faculty?

The quantitative aspect of the study is considered important as it provides in-depth information about pre-service teachers' views on professional teaching knowledge courses and their satisfaction levels in relation to education faculty. With the purpose of increasing the quality of the study and supporting the data obtained in the quantitative aspect, a qualitative aspect was added to the study and answers were

sought to the following questions to present and interpret the views of groups with a high and low level of evaluating the professional teaching knowledge courses:

1) How do you find the teaching skills and approaches of the instructors who give professional teaching knowledge courses? How do these skills and approaches affect you?

2) What are your impressions and evaluations in relation to education faculty?

Method

In this study, sequential transformative design was used, which is one of the 6 basic mixed method designs developed by Creswell (2003). In sequential transformative design, qualitative data may be collected after quantitative data is collected and analysed or a process in the contrary may be implemented. When determining this sequence, the essential point is the researcher's priority and needs. Although there are situations where qualitative or quantitative data is prioritized in this model, there are also situations where both data has equal importance. Comments on both data are combined in the discussion section. This design is quite important as it enables that alternative perspectives can be presented and the subject of the study can be understood better.

Relational screening model, which aims to present the degree and direction of the relationship between variables, was used in the quantitative aspect of the study (Karasar, 2009). In this study, which is within the scope of predictive correlational studies, it was aimed to determine the unknown value of the known criteria variable as a dependent variable based on the known value of the predictive valuable, which is known as the independent variable. High relationship of predictive and criteria variables is quite important for the accuracy of this determination (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2008).

The data in the qualitative aspect of the study was collected with focus group interview method. In this method, the aim is to obtain in-depth and multidimensional qualitative data in relation to the emotions, thoughts, perceptions, attitudes and experiences of the participants. By means of environments where participants express their views freely and with the impact of group interaction, this method is quite advantageous for manifesting new and different thoughts (Kitzinger, 1995).

Participants

Population of this study consists of 2439 pre-service teachers studying at an Education Faculty in Turkey in 2017-2018 academic year and the sample of quantitative dimension of the study consists of 404 pre-service teachers chosen by stratified sampling method. The sample of the study includes 129 (32%) male, 275

(68%) female pre-service teachers. In addition, 89 participants (22) are studying at 1st grade; 106 participants (26) at 2nd grade, 95 participants (24%) at 3rd grade and 114 participants (28%) at 4th grade. Distribution of pre-service teachers according to departments is as follows: Computer and Instructional Technologies teaching is included in the sample with 37 participants (9.06%), science teaching with 62 participants (15.29%), primary school mathematics teaching with 13 participants (3.28%), preschool teaching with 40 participants (9.96%), psychological counselling and guidance with 101 participants (25.25%), primary school teaching with 69 participants (17.05%), social sciences teaching with 37 participants (9.02%) and Turkish teaching with 45 participants (11.09%).

The data in the qualitative dimension of the study was collected using an extreme or deviant case sampling method, which is one of the most purposeful sampling methods. As a result of the data obtained from quantitative dimension, Computer and Instructional Technologies teaching 3rd grade students who have the highest course evaluation average score in the education faculty and, Primary School Mathematics teaching 1st grade who have the lowest course evaluation average score in the education faculty constituted the population of the qualitative dimension. Since data was collected with focus group interviews in the qualitative dimension, the number of participants should not exceed 10 to prevent the decrease in group dynamics and interaction and to control the group more easily in focus group interviews. For that reason, groups formed with 8-10 participants are adequate in terms of collecting data effectively in focus group interviews (Edmunds, 2000). In the light of this information, two student groups of 8 people each chosen among the Computer and Instructional Technologies teaching 3rd grade students who have the highest course evaluation average score and Primary School Mathematics teaching 1st grade who have the lowest course evaluation average score constitute the sample of the qualitative dimension.

Data Collection Tools

Quantitative dimension. In the quantitative dimension of the study, the data was collected using Education Faculty Course Evaluation Scale and Education Faculty Student Satisfaction Scale.

Education Faculty Course Evaluation Scale. The scale was prepared using 5-point Likert Scale as "1-Strongly Agree", "2-Agree", "3-Neutral", "4-Disagree" and "5-Strongly Disagree" and it consists of 30 items. The scale includes four sub-dimensions; teaching approaches, use of resources, feedback-evaluation and self-evaluation. Teaching approaches dimension aims to evaluate the attitudes and behaviours of the instructors and the methods and techniques they use during the courses. Some of the items in this dimension are as follows: "Instructor is a guide

for accessing resources." "Resources used in the course are related to the course and useful." Feedback and Evaluation dimension aims to evaluate the instructors' feedbacks and evaluations within the scope of the course. Some of the items in this dimension are as follows: "Instructors announce evaluation criteria at the beginning of the semester." Homework and projects help me gain depth in relation to the subject." "Exam questions are closely related to the subjects of the course." Personal contribution dimension aims to evaluate the students' attitudes towards the course. Some of the items in this dimension are as follows: "My experiences in this course are quite valuable." "I recommend lower classes to take and continue this course."

During the development process of this scale, literature and course evaluation forms of the domestic and foreign universities were reviewed and an item pool of 41 questions was created. Items were reorganized in accordance with the views of six experts in total; two experts from the education management department, two experts from the assessment and evaluation department and two experts from Turkish education and the number of items was reduced to 37. As a result of the preliminary implementation with these items, five items were removed from the scale as they indicate heterogeneity and the scale with 32 items was created.

Exploratory factor analysis was conducted to exhibit the psychometric features of the scale. In the exploratory factor analysis, it is necessary to determine the size of the sample to which the scale will be applied. Although there is no common view in the related literature in relation to the number of participants required for exploratory factor analysis, it is suggested that sample size is determined by taking at least two views into consideration (Çokluk, Şekerciolğu, & Büyüköztürk, 2012). For that reason, taking the view that 200 participants will be enough into consideration (Comrey & Lee, 1992; Kline, 1994), whether the data obtained from 208 participants complies with exploratory factor analysis was investigated using the Kaiser-Mayer-Olkin (KMO) coefficient and Barlett test. As a result that KMO coefficient is .925 and Barlett test is statistically significant (c^2= 5564,494; df= 496; p < 0,001), it was exhibited that exploratory factor analysis could be applied to the data. In the exploratory factor analysis conducted, the rule that factor load of an item should be above .30 to remain in the scale was taken into consideration (Büyüköztürk, 2010). For that reason, two items which were below .30 were excluded from the scale and the number of items was reduced to 30. Results on factor structure and loads of the items obtained as a result of exploratory factor analysis are given in Table 2.

Table 2
Factor Structure and Factor Loads of Items in Education Faculty Course Evaluation Scale

Dimensions	Items	Factor Loads			
		1	2	3	4
Teaching Approaches	Item 6	.811			
	Item 8	.738			
	Item 4	.726			
	Item 11	.703			
	Item 1	.610			
	Item 5	.607			
	Item 7	.559			
	Item 3	.541			
	Item 17	.481			
	Item 16	.460			
	Item 2	.423			
	Item 10	.416			
Explained Variance		%34.62			
Use of Resources	Item 23		.763		
	Item 24		.742		
	Item 21		.499		
	Item 22		.473		
Explained Variance		%9.62			
Feedback and Evaluation	Item 13			.653	
	Item 12			.628	
	Item 14			.626	
	Item 15			.532	
	Item 18			.397	
	Item 19			.382	
Explained Variance		%15.52			
Personal Contribution	Item 30				.778
	Item 31				.698
	Item 32				.669
	Item 29				.598
	Item 27				.551
	Item 26				.512
	Item 25				.489
	Item28				.401
Explained Variance					%7.45
Total Explained Variance					%67.21

Extraction Method: Maximum Likelihood. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 6 iterations.

In Table 2, as a result of exploratory factor analysis it was determined that latent value of each item is bigger than 1%; factor loads of items in teaching approaches dimension are between .81 and .42; factor loads of items in use of resources dimension are between .74 and .43; factor loads of items in evaluation dimension are between .65 and .32; factor loads of items in personal contribution dimension are between .78 and .40. In addition, the four dimensions mentioned explain 67% of total variance.

With the confirmatory factor analysis conducted with data obtained from 195 participants, it was determined whether the data complies with the created model. As a result of the analyses conducted with the model, it was seen that calculated chi-square value (c^2=894,01, $p < .000$) is statistically significant. However, c^2 value, which is not significant with the impact of sample size, may be statistically significant in cases where the number of participants is high (Hu & Bentler, 1999). For that reason, other fit indices were used to exhibit the competence of the model created. When the calculated fit index values are reviewed, it was observed that the model has acceptable fit values (c^2/sd: 2.82; AGFI: .86; CFI: .90; GFI: .90; IFI: .91; NFI: .90; NNFI: .92; PGFI: .87; PNFI: .83; RMSEA: .07; SRMR: .08) to explain the data.

The reliability of the scale was calculated with Cronbach's Alpha and as a result of measurements, Cronbach's Alpha coefficients were found as .91 for teaching approaches, .81 for use of resources, .80 for evaluation, .85 for personal contribution and .93 for the entire scale. In addition, results on total correlation for items indicate that the relation of items is between .30 and .65 in teaching approaches; between.43 and .75 in use of resources dimension; between .27 and .53 in evaluation dimension and between .26 and .60 in personal contribution dimension.

Education Faculty Student Satisfaction Scale. The scale was developed by Şahin (2009) to determine satisfaction levels of students studying at education faculties. The scale was prepared using 5-point Likert Scale as "1-Very Dissatisfied", "2-Satisfied", "3-Indecisive", "4-Satisfied" and "5-Very Satisfied" and it consists of 40 items. As a result of calculation of average weight values; scores between 1.00-1.80 are interpreted as "Not Satisfied"; scores between 1.81-2.60 are interpreted as "Little Satisfied"; scores between 2.61-3.40 are interpreted as "Moderately Satisfied"; scores between 3.41-4.20 are interpreted as "Quite Satisfied" and scores between 4.21-5.00 are interpreted as "Completely Satisfied". The scale includes six sub-dimensions; instructors, consultancy, management, resources, computer opportunities, courses and curriculums. In the original scale, factor loads of items in the instructors' sub-dimension are between .57-.74, factor loads of items in the consultancy sub-dimension are between .77–.85, factor loads of items in the management sub-dimension are between .52-.73, factor loads of items in the resources sub-dimension are between .35-.64, factor loads of items in the computer opportunities sub-dimension are between. 76-.88 and factor loads of items in the courses and curriculums sub-dimension are between .46-.75. Internal consistency coefficient of sub-dimensions is 0.91 for instructors, 0.93 for consultancy, 0.85 for management, 0.83 for resources, 0.89 for computer opportunities and 0.68 for courses and curriculums. In this study, it was determined that instructors dimension's factor loads of are between .40-.64, item correlation coefficients are between .28-.63 and Cronbach's Alpha value is .88; consultancy dimension's factor loads of are between .49-.55, item correlation coefficients are

between .55-.75 and Cronbach's Alpha value is .90; management dimension's factor loads of are between .37-.64, item correlation coefficients are between .27-.63 and Cronbach's Alpha value is .80; resource dimension's factor loads of are between .31-.67, item correlation coefficients are between .21-.59 and Cronbach's Alpha value is .74; computer opportunities dimension's factor loads of are between .37-.47, item correlation coefficients are between .50-.56 and Cronbach's Alpha value is .78; courses and curriculums dimension's factor loads of are between .40-.58, item correlation coefficients are between .32-.66 and Cronbach's Alpha value is .78; and Cronbach's Alpha value of the entire scale is .93. These results indicate that items of the scale have adequate load in each dimension and their reliability is high.

Data Analysis

The data obtained from the scales applied in the quantitative dimension of the study were tested using SPSS 22 software package with t-test which is one of the parametric tests, one-way analysis of variance (ANOVA), correlation and regression analyses as the data comes from normal distribution and variances are homogenous. In this study, relationships between pre-service teachers' course evaluation and education faculty satisfaction levels and gender were determined with t-test; relationships between course evaluation and education faculty satisfaction levels and grade and department were determined with one-way analysis of variance (ANOVA). The degree and direction of the relationship between course evaluation and education faculty student satisfaction levels was exhibited with correlation analysis. The predictive role of pre-service teachers' views about course evaluation on their education faculty satisfaction levels was determined with regression analysis.

In the qualitative dimension of the study, focus group interviews with pre-service teachers were recorded on voice recorders with their permission. Then, recorded data was written down and made into documents. Content analysis was conducted on that data. During content analysis of the data, pre-service teachers who participated in the focus group interview were named with coding method. During coding, Primary School Mathematics teaching 1st grade students who have the lowest course evaluation level were coded with the first letter of their department and grades as M1-1, M1-2, M1-3 and Computer and Instructional Technologies teaching 3rd grade students who have the highest course evaluation level were coded as C3-1, C3-2, C3-3.

Results

Quantitative Dimension

Primarily, average and standard deviation values of the variables, their relationships with class and departments; then the relationships of variables with each other and

predictive role of course evaluation sub-dimensions on education faculty satisfaction were included in the qualitative dimension. Average and standard deviation values of the study variables are as follows in Table 3.

Table 3
Average and Standard Deviation Values of Variables

	Dimensions	n	$\bar{x}$	S
Education Faculty Course Evaluation Scale	Teaching Approaches	404	3.72	.69
	Use of Resources	404	3.76	.78
	Feedback-Evaluation	404	3.83	.66
	Personal Contribution	404	3.77	.69
	Course Evaluation Total	404	3.77	.57
Education Faculty Student Satisfaction Scale	Instructors	404	3.29	.70
	Consultancy	404	3.17	.92
	Management	404	2.90	.84
	Resources	404	2.94	.70
	Computer Opportunities	404	3.01	.98
	Courses and Curriculums	404	3.31	.83
	Student Satisfaction Total	404	3.10	.59

When Table 3 is examined, it is seen that feedback-evaluation ($\bar{x}$ =3.83) sub-dimension in course evaluation dimension and courses and curriculums ($\bar{x}$ =3.31) sub-dimension in education faculty student satisfaction dimension have the highest average. However, teaching approaches ($\bar{x}$ =3.72) sub-dimension in course evaluation dimension

Table 4
Average and Standard Deviation Values Regarding Gender and t-Test Results

Dimensions	Gender	n	$\bar{x}$	S	t	p
Teaching Approaches	Male	129	3.56	.64	-3.01	.00
	Female	275	3.79	.71		
Use of Resources	Male	129	3.59	.84	-2.85	.01
	Female	275	3.84	.73		
Feedback-Evaluation	Male	129	3.66	.73	-3.57	.00
	Female	275	3.32	.61		
Personal Contribution	Male	129	3.66	.73	-2.14	.03
	Female	275	3.82	.66		
Education Faculty Course Evaluation Total	Male	129	3.62	.61	-3.59	.00
	Female	275	3.84	.54		
Instructors	Male	129	3.17	.69	-2.20	.03
	Female	275	3.35	.70		
Consultancy	Male	129	3.00	.89	-2.48	.01
	Female	275	3.26	.93		
Management	Male	129	2.74	.80	-2.49	.01
	Female	275	2.97	.85		
Resources	Male	129	2.91	.71	-0.54	.59
	Female	275	2.95	.69		
Computer Opportunities	Male	129	3.15	.95	1.84.	.07
	Female	275	2.95	.98		
Courses and Curriculums	Male	129	3.21	.85	-1.77	.08
	Female	275	3.38	.81		
Education Faculty Student Satisfaction Total	Male	129	3.03	.56	-1.69	.09
	Female	275	3.14	.60		

and management ($\bar{x}$ =2.90) sub-dimension in education faculty student satisfaction dimension have the lowest average. In total scores, it was determined that pre-service teachers' evaluation of professional courses is on "Agree" level ($\bar{x}$ =3.77) and their satisfaction regarding education faculty is on "Moderately Satisfied" level ($\bar{x}$ =3.10). Average and standard deviation values of variables according to gender and t-test results showing the relationship of these variables with gender are given in Table 4.

When Table 4 is examined, it was shown that total course evaluation averages ($\bar{x}$ =3.84) and total satisfaction averages ($\bar{x}$ =3.14) of females according to gender factor were higher than averages of males ($\bar{x}$ =3.62, $\bar{x}$ =3.03). In addition, a significant difference ($p < .05$) is seen in terms of gender in all sub-dimensions and total score of course evaluation and also in instructors, consultancy and management sub-dimensions of education faculty student satisfaction. ANOVA results showing the relationship of variables with grade are given in Table 5.

Table 5
ANOVA Results Showing the Relationship of Variables with Grade

Dimensions	1st Grade		2nd Grade		3rd Grade		4th Grade				
	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	F	p	Sig. Dif.
Teaching Approaches	3.60	.62	3.75	.65	3.81	.75	3.68	.74	1.35	.26	
Use of Resources	3.48	.78	3.90	.78	3.78	.78	3.81	.71	4.59	.00	1-2,1-4
Feedback-Evaluation	3.61	.66	3.86	.61	3.95	.70	3.87	.62	4.17	.01	1-3
Personal Contribution	3.66	.68	3.72	.61	3.91	.76	3.75	.68	2.21	.09	
Course Evaluation Total	3.59	.49	3.81	.56	3.86	.63	3.78	.55	3.63	.01	1-3
Instructors	3.29	.65	3.42	.59	3.19	.75	3.23	.79	1.94	.12	
Consultancy	3.18	.85	3.08	1.02	3.21	.87	3.23	.92	.50	.68	
Management	2.83	.85	2.93	.77	2.94	.78	2.87	.95	.36	.78	
Resources	2.99	.65	2.98	.60	2.85	.67	2.93	.84	.72	.54	
Computer Opportunities	2.82	.95	2.89	.93	3.06	.97	3.24	1.01	3.39	.02	1-4
Courses and Curriculum	3.16	.86	3.45	.68	3.25	.87	3.38	.91	2.06	.11	
Student Satisfaction Tot.	3.04	.53	3.12	.53	3.09	.59	3.14	.70	.47	.70	

When Table 5 is examined, it is seen that teaching approaches and personal contribution sub-dimensions in course evaluation dimension and instructors, consultancy, management, resources and courses and curriculum sub-dimensions in education faculty student satisfaction dimension, do not differ according to grade ($p > .05$). On the other hand, use of resources and feedback-evaluation sub-dimensions of course evaluation and computer opportunities sub-dimension of student satisfaction differ in terms of grade ($p < .05$). According to Tukey test results, it was determined that differentiation is between 1st grade ($\bar{x}$ =3.48) and 2nd grade ($\bar{x}$ =3.90) and between 1st grade ($\bar{x}$ =3.48) and 4th grade ($\bar{x}$ =3.81) in the use of resources sub-dimension; between 1st grade ($\bar{x}$ =3.61) and 3rd grade ($\bar{x}$ =3.95) in feedback-evaluation sub-dimension; between 1st grade ($\bar{x}$ =2.82) and 4th grade ($\bar{x}$ =3.24) in computer opportunities sub-dimension. ANOVA results showing the relationships of variables with department are shown in Table 6.

Table 6
ANOVA Results Showing the Relationship of Variables with Department

	Social		Maths		Science		PCG		PST		Classroom		Turkish		CIT				
Dimensions	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	F	p.	S. D.
Teaching Approaches	3.63	.77	3.53	.60	3.79	.83	3.67	.64	3.68	.67	3.72	.65	3.73	.75	3.97	.57	.78	.61	
Use of Resources	3.81	.95	3.79	.80	3.73	.90	3.67	.73	3.65	.84	3.88	.60	3.86	.79	3.90	.63	.74	.64	
Feedback-Evaluation	3.77	.77	3.78	.36	4.08	.70	3.73	.60	3.79	.58	3.80	.73	3.78	.71	4.06	.46	2.09	.04	2-8
Personal Contribution	3.72	.82	3.55	.47	3.89	.77	3.64	.69	3.90	.62	3.84	.63	3.63	.63	4.08	.53	2.18	.04	4-8
Course Evaluation Total	3.73	.73	3.66	.39	3.87	.69	3.68	.51	3.75	.56	3.81	.50	3.75	.55	4.00	.44	1.36	.22	2-8
Instructors	3.44	.75	3.36	.45	3.40	.77	3.18	.67	3.10	.81	3.33	.67	3.29	.70	3.43	.56	1.35	.22	
Consultancy	3.35	.88	3.92	.51	3.25	.89	2.99	.97	3.04	.78	3.19	.97	3.01	1.01	3.58	.54	3.01	.00	2-8
Management	3.01	.95	2.98	.78	2.97	.95	2.78	.77	3.15	.84	2.75	.78	2.66	.82	3.39	.59	2.75	.01	4-8,6-8,7-8
Resources	3.15	.72	3.05	.55	3.06	.81	2.79	.66	2.76	.72	3.06	.69	2.80	.61	3.12	.49	2.47	.02	
Computer Opportunities	3.33	.91	2.90	.80	2.96	1.15	3.10	.96	2.87	.96	2.97	.90	2.84	.99	2.89	.87	.97	.46	
Courses and Curriculum	3.43	.76	3.67	.55	3.28	.92	3.22	.88	2.95	.94	3.45	.65	3.40	.79	3.73	.59	2.74	.01	5-8
Student Satisfaction Total	3.28	.65	3.31	.33	3.15	.76	3.01	.52	2.98	.57	3.13	.54	3.00	.56	3.36	.45	2.09	.04	2-8,5-8

When Table 6 is examined, it is seen that teaching approaches and use of resources sub-dimensions in course evaluation dimension and instructors, resources and computer opportunities sub-dimensions in education faculty student satisfaction dimension, do not differ according to department ($p > .05$). On the other hand, feedback-evaluation and personal contribution sub-dimensions of course evaluation and total score of course evaluation and consultancy, management, courses and curriculums sub-dimensions of education faculty student satisfaction and total score of education faculty student satisfaction differ in terms of department ($p < .05$). According to Tukey test results, differentiations are between primary school mathematics teaching ($\overline{x}$ =3.78) and Computer and Instructional Technologies teaching ($\overline{x}$ =4.06) in feedback-evaluation sub-dimension; between Psychological Counselling and Guidance (PCG) ($\overline{x}$ =3.64) and Computer and Instructional Technologies teaching ($\overline{x}$ =4.08) in personal contribution dimension and, between primary school mathematics teaching ($\overline{x}$ =3.66) and Computer and Instructional Technologies teaching ($\overline{x}$ =4.00) in course evaluation total score. In addition, the differentiation is between primary school mathematics teaching ($\overline{x}$ =3.04) and Computer and Instructional Technologies teaching ($\overline{x}$ =3.58) in consultancy sub-dimension; between PCG ($\overline{x}$ =2.78), classroom teaching ($\overline{x}$ =2.75) and Turkish teaching ($\overline{x}$ =2.66) and Computer and Instructional Technologies teaching ($\overline{x}$ =3.39) in management sub-dimension; between Computer and Instructional Technologies teaching ($\overline{x}$ =3.73) and preschool teaching ($\overline{x}$ =3.67) in courses and curriculums sub-dimension; between primary school mathematics teaching ($\overline{x}$ =3.31) and preschool teaching ($\overline{x}$ =2.98) and Computer and Instructional Technologies teaching ($\overline{x}$ =3.36) in education faculty student satisfaction total score. Results obtained as a result of correlation analysis conducted to determine relationships between variables are given in Table 7.

Table 7
Relationships between Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Teaching approaches	1	.58**	.60**	.52**	.23**	.15**	.14**	.11*	-.01	.08	.83**	.16**
2. Use of Resources		1	.54**	.49**	.31**	.22**	.21**	.26**	.06	.22**	.82**	.29**
3. Feedback/Evaluation			1	.50**	.27**	.20**	.17**	.13*	.02	.13**	.81**	.20**
4. Personal Contribution				1	.27**	.19**	.20**	.24**	.02	.20**	.77**	.25**
5. Instructors					1	.42**	.56**	.62**	.34**	.55**	.78**	.33**
6. Consultancy						1	.43**	.36**	.26**	.35**	.67**	.23**
7. Management							1	.67**	.35**	.31**	.76**	.23**
8. Resources								1	.47**	.41**	.80**	.23**
9. Computer Opp.									1	.24**	.65**	.03
10. Courses and Cur.										1	.66**	.20**
11. Course Ev. Total											1	.28**
12. Student Sat. Total												1

*$p < .05$, **$p < .01$.

When Table 7 is examined, it is seen that there are weak positive relationships between the course evaluation sub-dimensions and education faculty student satisfaction sub-dimensions. The highest level of these relationships is between instructors and teaching approaches (r=.23; $p < .01$), use of resources (r=.31; $p < .01$),

evaluation (r=.27; p < .01) and personal contribution (r=.27; p < .01). In addition, there is weak positive relationship between course evaluation total scores and education faculty student satisfaction total scores (r=.28; p < .01) On the other hand, strong positive relationships were determined between student course evaluation sub-dimensions. The highest level of these relationships is between teaching approaches and use of resources (r=.58; p < .01) and feedback-evaluation (r=.60; p < .01). Multiple regression analysis results in relation to course evaluation sub-dimensions' prediction of education faculty student satisfaction are given in Table 8.

Table 8
Regression Analysis Results in relation to Course Evaluation Level's Prediction of Education Faculty Student Satisfaction

Variables	B	*SE*	β	t	*p*
Fixed	2.03	.20		10.04	.00
Teaching Approaches	-.08	.06	-.10	-1.40	.16
Use of Resources	.18	.05	.23	3.56	.00
Feedback-Evaluation	.05	.06	.06	.87	.39
Personal Contribution	.14	.05	.16	2.53	.00

R = .32, R^2 = .10.
F = 10.199, p < .01.

When Table 8 is examined; teaching approaches, use of resources, evaluation and personal contribution variables together give a weak significant relationship with satisfaction level of pre-service teachers (R =.32; R^2=.10; p < .01). four abovementioned variables together explain 10% of pre-service teachers' total variance of education faculty satisfaction. According to standardized regression coefficient (β), the order of importance of predictive variables on satisfaction levels of pre-service teachers is use of resources, personal contribution, teaching approaches and feedback-evaluation. When the results of t-test in relation to significance of regression coefficients are examined; it is seen that use of resources and personal contribution are significant predictors of satisfaction levels of pre-service teachers. Teaching approaches and evaluation variables do not have an important impact on satisfaction levels of pre-service teachers.

Qualitative Dimension: The qualitative dimension contains the content analysis of the data obtained with focus group interview. In the quantitative dimension, the grade with the lowest course evaluation average was 1st grade ($\bar{x}$ =3.59), the department with the lowest average was primary school mathematics teaching ($\bar{x}$ =3.66); the grade with the highest average was 3rd grade ($\bar{x}$ =3.86) and the department with the highest average was Computer and Instructional Technologies teaching ($\bar{x}$ =4.00). For that reason, focus group interviews were conducted with primary school mathematics teaching 1st grade students who have the lowest course evaluation averages and Computer and Instructional Technologies teaching 3rd grade students who have the highest average. The questions asked in the focus group interview and answers for which content analysis was conducted are as follows:

How do you find the teaching skills and approaches of the instructors who give professional teaching knowledge courses? How do these skills and approaches affect you? These questions aim to exhibit pre-service teachers' views on teaching characteristics of instructors and the impact that such characteristics create upon them. In accordance with the pre-service teachers' responses, teaching skills and approaches are examined in Table 9 and Table 10 in two categories as positive characteristics and negative characteristics:

Table 9
Positive Teaching Characteristics of Instructors

Positive Characteristics	Sample Sentences	Participants (16)	Respondents	% According to Departments
Having strong field knowledge	"He has a comprehensive knowledge of the field, he can transfer his knowledge effectively, he does not ignore any of our questions."	M1-2 C3-2, C3-3, C3-5, C3-8	5 (38%)	20% Mathematics 80% Computer and Instructional Technologies
Using teaching methods and techniques effectively	"When he puts a case forward, he creates such an atmosphere that we feel as if we are a character of that case." "He makes us live the case he tells." "He enables us to imagine the incidents." "He does not only give the lesson himself, he includes us in the course and supports us to give a lesson, discuss the subject and ask questions."	M1-6, M1-8 C3-2, C3-3, C3-4, C3-5, C3-6, C3-7	8 (50%)	25% Mathematics 75% Computer and Instructional Technologies
Effective feedback	"He repeats the parts that we do not understand using a different method." "He shares the homework and materials of higher classes with us." "He guides us when we cannot find a project idea." "When he gives us homework, he follows up the homework, he requests information about the progress each week."	M1-3, C3-1, C3-2, C3-7, C3-5, C3-6, C3-8	7 (44%)	14% Mathematics 86% Computer and Instructional Technologies
Student Oriented Approach	"He conducts research with us." "He contributes in our researches." "He guides us to projects." "He values our ideas." "He offers us choices." "We find the next week's subject by brainstorming in the classroom. We do not follow the book."	M1-7, B3-1, C3-2, C3-3, C3-4, C3-5, C3-6, C3-7 C3-8	9 (56%)	11% Mathematics 89% Computer and Instructional Technologies

Setting an example	"Although I was studying teaching, I did not want to be a teacher. My teacher showed me that I could make the course fun. For that reason, I changed my mind about teaching." "The teacher exhibits all the behaviours that he tells us about the teaching profession." "He controls the classroom so well that I am amazed." "Although we are a talkative classroom, we listen to the courses of this teacher carefully and participate in discussions, I think that teacher's behaviours towards students are very important." "Students may love the course when they see the behaviours of the teacher that they can take as an example."	M1-4, M1-5 C3-2, C3-3, C3-4, C3-5, C3-6, C3-7, C3-8	9 (56%)	22% Mathematics 78% Computer and Instructional Technologies

Table 10
Negative Teaching Characteristics of Instructors

Negative Characteristics	Sample Sentences	Participants (16)	Respondents	% According to Departments
Creating one-way perspective	"He wants us to answer the questions only as he taught. He does not accept alternative solutions."	M1-1, M1-4, M1-5, M1-6, M1-7, M1-8	6 (38%)	100% Mathematics 0% Computer and Instructional Technologies
Inadequacy in teaching methods and techniques	"The teacher reads the contents of the books as it is or writes it on the board. He does not include his own narration in the lesson. There should be a difference between the book and the teacher." "He gives uniform lectures. You can bear maximum ten minutes. Then my brain shuts itself off." "As he constantly lectures, the courses are boring." "He just reads the slides."	C3-2, C3-8 M1-2, M1-3, M1-4, M1-6, M1-7, M1-8	8 (50%)	75% Mathematics 25% Computer and Instructional Technologies
Teacher oriented approach	"The teacher thinks that I do not know anything." "He expects that everything should be done as he says because he is the teacher." "I cannot ask questions as I am afraid that he would humiliate me." "He looks at one point when he gives a lecture." "He focuses on the duration of the course, not the content. Courses are boring as he does not give a break." "If the subject is covered and it is thought that it is understood, there is no need to extend the course. When the course is extended, we both cannot focus and we forget what we learned, it becomes confusing." "He comes to the class, says good morning, gives his lecture and runs back to his room."	C3-6, C3-7 M1-1, M1-2 M1-3, M1-4, M1-5, M1-6, M1-7, M1-8	10 (63%)	80% Mathematics 20% Computer and Instructional Technologies

Table 10
Negative Teaching Characteristics of Instructors

Negative Characteristics	Sample Sentences	Participants (16)	Respondents	% According to Departments
Inadequacy in use of resources	"The teacher's resources are too old, not up-to-date and hard to access."	M1-1, M1-4	2 (13%)	100% Mathematics 0% Computer and Instructional Technologies
Not giving effective feedback	"I tell him what I could not understand, the instructor does not explain what I could not understand, but repeats what I understood. I learn what I could not understand from my friend." "He says that you already know the subject, I will pass it. but I do not know." "He does not hear me when I ask a question."	C3-1, C3-3, C3-4, M1-1, M1-3, M1-4, M1-5, M1-7, M1-8	9 (56%)	67% Mathematics 33% Computer and Instructional Technologies
Ineffective evaluation	"He gives too much homework." "He wants that homework is very detailed, but he does not teach in such detail." "He teaches the subject briefly and immediately gives us homework. I start doing homework before understanding the subject." "We focus on the homework when researching, not the content. We want to do the homework immediately and get it over with." "Our problem is not understanding the lesson, we understand it, but we cannot understand the questions in the exam." "He wants answers to the exam questions in book sentences." "If there are five items in the answer to an exam question, I get zero when I do not write one of these items." "I get zero when I write too much."	C3-3, C3-5, C3-8, M1-1, M1-3, M1-4, M1-5, M1-6, M1-7, M1-8	10 (63%)	70% Mathematics 30% Computer and Instructional Technologies
Creating negative perspective in the student	"He makes me have negative feelings about the teaching profession." "I think about what he tells us and how he behaves. What he tells us and his behaviours are inconsistent."	M1-2, M1-7	2 (13%)	100% Mathematics 0% Computer and Instructional Technologies

When Table 9 is examined, results regarding positive teaching characteristics of instructors are consistent with the sub-dimensions of the course evaluation scale in the quantitative dimension of the study. Results in relation to having strong field knowledge, using teaching methods and techniques effectively and student oriented approach correspond to the items in teaching approaches sub-dimension; results in relation to effective feedback correspond to the items in feedback-evaluation sub-dimension and results in relation to setting an example correspond to the items in personal contribution sub-dimension. In addition, when the distribution of results in which instructors' positive characteristics are exhibited according to departments are examined, it is seen that approximately 82% of the pre-service teachers are from Computer and Instructional

Technologies teaching department and approximately 14% of the pre-service teachers are from primary school mathematics teaching department. When the Table 10 is examined, results regarding negative teaching characteristics of instructors are also consistent with the sub-dimensions of the course evaluation scale in the quantitative dimension of the study. Results in relation to creating one-way perspective, inadequacy in teaching methods, techniques and teacher oriented approach are similar to the items in teaching approaches sub-dimension; results in relation to inadequacy in use of resources are similar to the items in use of resources sub-dimension; results in relation to not giving effective feedback and ineffective evaluation are similar to the items in feedback-evaluation sub-dimension and results in relation to creating negative perspective in the student are similar to the items in personal contribution sub-dimension. In addition, when the distribution of results in which instructors' negative characteristics are exhibited according to departments are examined, it is seen that approximately 85% of the pre-service teachers are from primary school mathematics teaching department and approximately 15% of the pre-service teachers are from Computer and Instructional Technologies teaching department. Qualitative results showing the distribution of views on positive and negative characteristics of instructors according to departments, are consistent with the results indicating that Computer and Instructional Technologies teaching department has the highest course evaluation average exhibited in the quantitative section and primary school mathematics teaching department has the lowest course evaluation average.

What are your impressions and evaluations in relation to education faculty? This question aims to exhibit views of pre-service teachers on general characteristics of education faculty. In accordance with the pre-service teachers' responses, the education faculty was examined in Table 11 in two categories as positive characteristics and negative characteristics:

Table 11
Views on Education Faculty

		Sample Sentences	Participants (16)	Respondents	% According to Departments
Positive Views	Peaceful Environment	"Faculty is quiet, peaceful, warm and away from background noise."	C3-1, C3-2, C3-3, M1-2, M1-4, M1-5, M1-8	7 (44%)	57% Mathematics 43% Computer and Instructional Technologies
	Class Size	"While there are classrooms of 100-150 people in other faculties, there are classrooms of maximum 60 people in our faculty."	C3-4, C3-7 M1-3	3 (19%)	33% Mathematics 67% Computer and Instructional Technologies
	Relations with Instructors	"Our teachers know our names and address us with our names."	C3-6, M1-1	2 (13%)	50% Mathematics 50% Computer and Instructional Technologies
	Curriculum	"Our curriculum is easy and the intensity of courses is on a level that we can tolerate. Daily course load does not bore us."	C3-1, C3-5, C3-8, M1-6, M1-7	5 (38%)	40% Mathematics 60% Computer and Instructional Technologies

Table 11
Views on Education Faculty

		Sample Sentences	Participants (16)	Respondents	% According to Departments
Negative Views	Inadequate social activities	"The campus is very quiet and peaceful." "There isn't even a spring fest." "I cannot see the difference between high school and university as there are no social activities." "No trips are organized."	C3-1, C3-2, C3-3, C3-4, C3-5, C3-7 M1-2, M1-4, M1-5, M1-6, M1-7, M1-8	12 (75%)	50% Mathematics 50% Computer and Instructional Technologies
	Inadequate technological devices	"We are expected to use technological devices well when we become teachers, the number of working computers in the faculty is not more than five." "I do not have any reception in the faculty." "There is no internet. We are in the information technology department, but we cannot use the internet." "There isn't adequate computers at the laboratory, there is no internet."	C3-1, C3-2, C3-3, C3-4, C3-5, C3-6, C3-7, C3-8 M1-1, M1-2, M1-6, M1-7	12 (75%)	33% Mathematics 67% Computer and Instructional Technologies
	Elective Courses	"Elective courses are selected by the department, not by us. Only the name is elective." "We should select our own elective courses."	C3-3, C3-7, M1-3, M1-6, M1-8	5 (38%)	60% Mathematics 40% Computer and Instructional Technologies
	Curriculums	"We have no input when making the curriculum."	C3-2, C3-4, C3-7, C3-8 M1-1, M1-2, M1-3, M1-5	8 (50%)	50% Mathematics 50% Computer and Instructional Technologies
	Relations with Instructors	"Although their course is in the morning, some of the teachers do not come to class and we are not informed." "I am prejudiced against some teachers. I say he will not come somehow."	C3-5, M1-4, M1-7, M1-8	4 (25%)	75% Mathematics 25% Computer and Instructional Technologies
	Physical environment is not suitable for learning	"The building is too old." "The building is not suitable to be the faculty."	C3-1, C3-2, C3-3, C3-5, C3-7, C3-8 M1-1, M1-2, M1-3, M1-6	10 (63%)	40% Mathematics 60% Computer and Instructional Technologies

When Table 11 is examined, results in relation to the pre-service teachers' views in relation to education faculty comply with the sub-dimensions of education faculty student satisfaction scale in the quantitative dimension of the study. Results on the theme of relations with instructors are similar to the items in instructors sub-dimension; results on the theme of curriculums and elective courses are similar to the items in courses and curriculums sub-dimension; results on the theme of peaceful environment, classroom size and physical environment is not suitable for learning are similar to the items in resources sub-dimension; results on the theme of inadequate

social activities are similar to the items in management sub-dimension and results on the theme of inadequate technological devices are similar to the items in computer opportunities sub-dimension. However, no theme was found that can be related to the items in consultancy sub-dimension.

In addition, when the distribution of results in which positive views on education faculty are expressed according to the departments is examined, it is seen that approximately 44% of the students who respond to this question are from Primary School Mathematics Teaching department and approximately 55% of them are from Computer and Instructional Technologies Teaching department. However, when the distribution of negative views is examined, it was determined that approximately 51% of them are from Primary School Mathematics Teaching department and approximately 49% of them are from Computer and Instructional Technologies Teaching department. When percentage distributions are examined, it was determined that percentage ratios of both departments are very close to each other although it was observed that the weight is in Computer and Instructional Technologies Teaching department relatively in positive views and in Primary School Mathematics Teaching department in negative views. For that reason, the distribution rate of the results on student course evaluation results education faculty satisfaction levels according to departments vary. This result complies with the result that there are weak relations among variables as a result of the correlation analysis and student course evaluation results are weak for explaining education faculty satisfaction levels as a result of the regression analysis.

Discussion

In this study which exhibits the relationship between pre-service teachers' views on professional teaching knowledge courses and their education faculty satisfaction levels, it was determined that pre-service teachers' course evaluation is on a high level and their education faculty satisfaction is on a moderate level. This result complies with other study results which exhibit that pre-service teachers' attitudes towards professional teaching courses (Ekici, 2008) are high and their education faculty satisfaction levels are moderate (Ekinci & Burgaz, 2007; Özdemir, Kılınç, Öğdem, & Er, 2013). Feedback-evaluation sub-dimension of course evaluation has the highest average. Given that effective feedback and evaluation have a strong impact on accelerating learning and gaining expertise (Buron & McDonald-Mann, 1999), it can be said that pre-service teachers reach the achievements of the professional teaching knowledge courses quickly and their expertise on teaching profession is improved. In education faculty general satisfaction dimension, courses and curriculums have the highest average. In the light of this result, it can be said that courses given in teaching programs and curriculums prepared meet the expectations of preservice teachers. Meeting expectations has a positive impact on both success and satisfaction levels of the students (Chiandotto, Bini, & Bertaccini, 2007).

Another result of this study is that the average of female pre-service teachers is higher than the average of male pre-service teachers in both total course evaluation dimension and total education faculty satisfaction level. In addition, it was determined that all sub-dimensions and total score of course evaluation and instructors, consultancy and management sub-dimensions of education faculty satisfaction vary in terms of gender. In all of the variances, averages of female pre-service teachers are higher than the averages of male pre-service teachers. This result can be explained by the fact that women are more inclined to the teaching profession than men (Kulaber, 2015). Due to this inclination, female pre-service teachers may exhibit more positive behaviours towards both professional teaching courses and general features of the education faculty.

In this study, it was also concluded that there are variances in terms of grade both in total course evaluation dimension and use of resources and feedback-evaluation sub-dimensions of course evaluation and computer opportunities sub-dimension of the education faculty satisfaction level. All variances are between 1st grade and other grades. 2nd and 4th grade averages in use of resources sub-dimension of course evaluation, 3rd grade average in feedback-evaluation sub-dimension and total course evaluation dimension and 4th grade average in computer opportunities sub-dimension of education faculty satisfaction are higher than 1st grade averages. That 1st grade averages are low in all variances indicate that orientation process of 1st grade students is not completed. As the grade increases, pre-service teachers' level of adapting to their environment and new situations and coping with difficulties increase (Yeşilyaprak, 2006) and this increase is reflected on the average of dimensions. This result verifies the results of another study (Erdoğan & Bulut, 2015) which determines that satisfaction levels of business management students vary in terms of grade and all variances are between the 1st grade and other grades.

Another result of this study is that feedback-evaluation and personal contribution sub-dimensions of course evaluation and total course evaluation score and also consultancy, management, courses and curriculums sub-dimensions of education faculty satisfaction and total education faculty student satisfaction score vary according to departments. The average of Computer and Instructional Technologies Teaching is higher than the average of primary school mathematics teaching in the feedback-evaluation sub-dimension and total course evaluation score; the average of Computer and Instructional Technologies Teaching is higher than the average of Psychological Consultancy and Guidance in personal contribution dimension. The average of Computer and Instructional Technologies Teaching is higher than the average of primary school mathematics teaching in the consultancy sub-dimension of education faculty satisfaction; the average of Computer and Instructional Technologies Teaching is higher than the average of Psychological Consultancy and Guidance, classroom teaching and Turkish teaching in management sub-dimension; average of Computer and Instructional Technologies

Teaching is higher than the average of pre-school teaching in courses and curriculums sub-dimension; the average of Computer and Instructional Technologies Teaching is higher than the average of primary school mathematics teaching in total education faculty student satisfaction score. The fact that averages of Computer and Instructional Technologies Teaching are high, primary school mathematics teaching has the lowest average and Computer and Instructional Technologies Teaching has the highest average in all variances are interesting. As a result of focus group interviews, approximately 85% of the pre-service teachers who stated positive views towards instructors who give professional teaching courses are from Computer and Instructional Technologies Teaching department and 81% of the pre-service teachers who stated negative views are from primary school mathematics teaching department. Considering that professional teaching knowledge courses are given to these departments by different instructors, the impact of instructors' behaviours and attitudes on the perceptions of pre-service teachers will be understood better.

Correlation analysis results indicate that there is a weak relationship between course evaluation sub-dimensions and education faculty satisfaction level sub-dimensions and regression analysis results indicate that predictive role of course evaluation on education faculty satisfaction level is weak. These results are consistent with the data obtained from focus group interviews. In focus group interviews, it was determined that Computer and Instructional Technologies Teaching and primary school mathematics teaching have different views on course evaluation and similar views on education faculty satisfaction. Variance on course evaluation may be explained by the fact that professional teaching knowledge courses are given by different instructors and the similar views on education faculty may be explained by the fact that pre-service teachers have similar experiences in the education faculty.

Pre-service teachers mostly gave answers which comply with the teaching approaches sub-dimension of course evaluation in the focus group interview. This result is an indicator that pre-service teachers consider the teaching approaches of instructors primarily while evaluating the efficiency of professional teaching courses. In the teaching approaches dimension, pre-service teachers stated positive views within the framework of the themes of strong field knowledge, using teaching methods and techniques effectively and being student oriented. Those individuals, who carry out education and teaching activities, have command of their fields, supports that such individuals are perceived effectively by both students (İhtiyaroğlu, 2014a) and their colleagues (İhtiyaroğlu, 2014b). In addition, it is quite important to use teaching methods and techniques effectively in reaching achievements of the field knowledge. Instructors who use teaching methods and techniques that prevent reaching top level skills can neither get pre-service teachers to targeted achievements nor support effective training of pre-service teachers. Pre-service teachers who stated negative

views in focus group interview stated that instructors create a unilateral perspective and cannot use teaching methods and techniques effectively. In compliance with the results of this study, it was determined that instructors do not use new approaches during the course and there is a difference between what they preach and what they do in the research by Özçakır Sümen and Çağlayan (2013). In addition, the results of the research by Yüksel (2008) exhibit that pre-service teachers use methods and techniques such as lecture, question and answer and note taking in teaching applications. These results are the indicators that pre-service teachers could not reach the achievements in relation to the effective use of teaching methods and techniques completely. An instructor who uses methods and techniques which enable achieving top level mental skills in professional teaching courses, can both enable that pre-service teachers reach the achievements of the course more quickly and effectively and, set an example to the pre-service teachers with this attitude.

In addition, preservice teachers who state positive views in teaching approaches dimension stated that instructors have a student oriented approach. Researches exhibit that student oriented approach increase permanent learning and success (Chung & Cow 2004; Felder & Brent, 1996) and for that reason, the place of pre-service teachers in education is quite important (Ünver, 2002). By means of student oriented approach, instructors ensure that pre-service teachers' learning of professional teaching courses are permanent and support their success. Results arising from negative views indicate that instructors have a teacher oriented approach, rather than a student oriented approach. In consistence with this result, the study by Yalçın İncik and Tanrıseven (2012) exhibited that instructors use mostly presentation and semi teacher and semi student oriented applications and barely included student oriented activities. It is quite difficult for pre-service teachers who do not have student oriented application experiences to exhibit behaviours in that direction. For that reason, pre-service teachers may not adopt student oriented approaches and exhibit effective teaching behaviours when they become teachers.

A certain part of the positive and negative views in focus group interviews are on feedback and evaluation. Giving feedback and making evaluation effectively accelerate the learning process of pre-service teachers and increase their expertise on the course (Buron & McDonald-Mann, 1999). Thus, pre-service teachers' training as effective teachers is supported. On the other hand, instructors who cannot give feedback and make evaluation effectively have a negative impact on the learning and expertise process of pre-service teachers. Researches exhibit that instructors do not pay attention to self-evaluation, peer evaluation and performance in the classroom environment during assessment and evaluation (Yalçın İncik &Tanrıseven, 2012) and most instructors' teaching process is limited to lecturing and conducting examinations (Karadağ & Yücel, 2017). Although these results comply with the results of this study, they are thought

provoking. Pre-service teachers who are expected to have top level achievements in the assessment and evaluation process, which is an integral part of effective teaching skills, have quite a low level of witnessing attitudes and behaviours in that direction in the pre-service education process. This may be another reason which leads to the fact that pre-service teachers cannot be effective enough when they become teachers.

Another theme which was not included among positive views, but included in negative views in focus group interviews was about the use of resources. Pre-service teachers stated that instructors use resources which are not up to date. In addition to education-teaching activities, instructors have the responsibility to make scientific research. Within the framework of this responsibility, instructors are obliged to monitor and evaluate the problems of the country they live in and the world in relation to their field and exhibit a scientific perspective (Ortaş, 2011). In order to do this, instructors are expected to follow data in relation to their field carefully in a time in which information may change within months and even in days and hours. Thus, instructors would revise their resources in accordance with currency and support pre-service teachers' accessing up to date information. Otherwise, pre-service teachers may not reach achievements in relation to knowledge and skills required by the time effectively and this situation may affect their efficiency level in teaching negatively.

Within the framework of efficiency of professional teaching courses, instructors are expected to set an example with their attitudes and behaviours and provide personal contribution to pre-service teachers. Sünbül (1996) exhibited that students identify themselves with teachers and they develop attitudes and behaviours as a result of this identification. In that case, it can be said that instructors who exhibit exemplary behaviours in the classroom environment affect pre-service teachers in a positive manner and support them for acquiring similar attitudes and behaviours. Researches conducted (Blazar & Kraft, 2017; Ergün & Duman, 1998; Hein, 2012; Kraft & Grace, 2016; Meşeci, 2008; Yasseen, 2010) exhibit that teacher's behaviours have a determinative role on students' behaviours and they are quite important in terms of education and verify the result of this study. On the other hand, unwanted attitudes and behaviours exhibited by instructors may affect students' perspective on the teaching profession in a negative manner. In their research, Özçakır Sümen and Çağlayan (2013) determined that instructors are far from exhibiting exemplary behaviours in parallel with the results of this study. In the light of this result, it can be said that pre-service teachers who interact with instructors within the framework of social cognitive theory, take teacher behaviours which are not suitable for the teaching profession as an example and this situation affects their efficiency level negatively.

Although there is a broad difference between the average of primary school mathematics teaching department and the average of Computer and Instructional

Technologies Teaching department in total course evaluation scores, total education faculty satisfaction score averages of these two departments are quite close to each other. The fact that two departments have similar views on education faculty satisfaction despite the weak relations between sub-dimensions of course evaluation and, education faculty satisfaction and a weak predictive role of course evaluation on education faculty satisfaction and different views between two departments in course evaluation dimension in focus group interviews indicate that pre-service teachers separate teaching processes of professional teaching knowledge courses and, the general operation of education faculty from each other and they make an independent evaluation. Although pre-service teachers think that professional teaching knowledge courses prepare them for the teaching profession, Çoğaltay (2015) emphasized that the number of pre-service teachers who think on the contrary is striking in his study on efficiency of professional teaching courses similar to the results of this study. Different views occurring in professional teaching knowledge courses may be caused by the fact that courses are given by different instructors. In addition, similar views on education faculty are a significant indicator that all pre-service teachers encountered the same experiences.

In focus group interviews, the number of pre-service teachers who stated positive views on the themes of a peaceful environment, classroom sizes, close relations with instructors and curriculums in relation to education faculty is quite limited. However, pre-service teachers who stated views on education faculty have a negative perspective in general. Inadequate social activities, inadequate technological devices, not taking pre-service teachers' views into consideration in elective courses and curriculums, distant relations with instructors, physical environment not suitable for learning are the themes for which pre-service teachers stated their views. When these themes are examined, it is observed that education faculty has serious defects in relation to training teachers. In order to be well-equipped on cognitive, behavioural, cultural and social levels in accordance with the requirements of the time, pre-service teachers are expected to be improved on an adequate level in the above mentioned themes. In the light of this result, it can be said that pre-service teachers go through an education-teaching process in environments which are not suitable for learning, in weak relations with instructors and away from integration of technological devices in course processes, where views are not taken into consideration when determining elective courses and curriculums and which is only teaching weighted university life away from social activities. These results are not specific to the education faculty where the study was conducted. In a study carried out by Özçakır Sümen and Çağlayan (2013) at another education faculty, it was exhibited that pre-service teachers are satisfied with instructors, management services, resources and computer opportunities on a low level and they are satisfied with consultancy services and courses and curriculums on a moderate level. In addition, pre-service teachers expressed their views that useful laboratories, libraries, conference halls,

cafeterias, large and technologically well-equipped buildings and classrooms and an environment which offers learning opportunities outside the course and pre-service teachers are involved in the decision in management are necessary. In addition, various researches conducted at various universities (Aksu, 2016; Ekinci & Burgaz, 2007; Karadağ & Yücel, 2017; Özdemir et al., 2013; Şahin, 2009; Uygur & Yanpar Yelken, 2017) verify the conclusion that expectations of the pre-service teachers are not met at education faculties in consistence with the results of this study. All results indicate that operation in the university is not student oriented. It cannot be expected that pre-service teachers are improved academically, culturally and socially and complete their pre-service training as well-equipped as required by the teaching profession in an environment where instructors only give a lecture and set exams, a result oriented evaluation system is prevailing rather than a process oriented, physical environment and inadequacy of technological devices affect the learning process negatively and, activities to increase intellectual level and support their socialization of pre-service teachers are inadequate.

All results in this study indicate that the pre-service training process of pre-service teachers do not meet the targeted efficiency. The fact that behaviours that increase the efficiency and effectiveness of pre-service teachers which are expected from all instructors in education and teaching processes are not observed in some of the instructors especially those who give professional teaching knowledge courses, is a thought provoking situation. In addition, pre-service teachers cannot reach the required competence level that an effective teacher should have academically, technologically, socially and culturally due to all of the negatives mentioned above. Selection criteria of pre-service teachers, who completed their pre-service training without the competence and efficiency required by the teaching profession, are written examinations and interviews. In this process where the examination score is quite determinative, pre-service teachers can easily be assigned in primary and secondary education institutions despite all their deficiencies. PISA, TIMMS and ABİDE results indicate that students educated by those teachers, who are not professionally competent and efficient, cannot have the acquisitions required today on an adequate level. Based on the impact of teachers on student acquisitions, it should not be forgotten that the development level of Turkey in the education and teaching process mostly depends on teachers.

The prerequisite of teachers' achieving all competencies required in pre-service training on the top level is not arranging the content and density of courses. People who transfer all the changes in content or density of courses to the pre-service teachers and guide the pre-service teachers within the scope of the course are instructors. For that reason, it is necessary to increase the efficiency of the instructors and reorganize the conditions of education faculties to increase the quality of pre-service teachers. In the light of this information, it

can be said that it is necessary to consider the power of internal factors more in the change process and training of teachers is restructured with a new paradigm. Factors which lead to inefficiency of instructors can be investigated and studies to eliminate these factors can be emphasized. Due to the academic progress process and academic incentive allowance, instructors are obliged to carry out scientific studies. Due to this obligation, education-teaching responsibility of the instructors may be of secondary importance. For that reason, studies exhibiting the relationship between the incentive system and education-teaching efficiency of instructors may be carried out. In addition, due to the workload that incentive system imposes on instructors besides the academic progress process, removing this system may be beneficial in terms of education-teaching efficiency of instructors.

The source of most technological and physical problems in education faculties are financial. Although the possibility of solving financial problems in the short term and quickly is quite low, a cooperation can be made with the chambers of commerce, industrial organizations and non-governmental organizations in the province where the university is located and financial support can be provided from such chambers, organizations and institutions for solving these problems. An income can be provided to the faculty budget with events to be prepared with the support of pre-service teachers at education faculties. However, it is not right to think that all problems are financial. All non-financial dimensions in education faculties can be reorganized with student oriented perspective and pre-service teachers' views can be taken into consideration when determining elective courses and curriculums. Students can be gathered together with instructors and management by means of social and cultural events and extracurricular interaction processes can be strengthened. In addition, elements which emphasize the teaching profession and raise awareness of pre-service teachers can be used at education faculties just like how pictures, statutes and instrument sounds make you feel that you are in the faculty of fine arts. All these non-financial arrangements may assume a role for increasing the education faculty student satisfaction and then their teaching competencies and affect training efficient teachers in a positive manner.

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