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The reasons for information technologies pre-service teachers to prefer teaching profession and their attitudes towards the profession

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This study was carried out to determine the reasons for information technologies pre-service teachers for preferring teaching profession and whether their attitudes towards the profession differ according to the variables of gender, graduated high school, order of department preference, class level, the profession wanted to be worked and attitude of the lecturer. The study was carried out upon 160 pre-service teachers. The data were collected using the attitude scale related to teaching profession and the questionnaire including the questions related to the personal information and reasons to prefer the profession. As result of the research, it was noticed that altruistic reasons were noticed to be more efficient upon pre-service teachers' professional preferences, the reasons for preferring the profession did not change according to the gender in general, their attitudes towards the profession differed according to the high school they graduated and order of department preference, but does not differed according to the variables of gender, class level, the profession wanted to be worked and attitudes of the lecturers.

Key words: Pre-service teachers, reasons to choose teaching profession, attitudes towards the teaching profession.

INTRODUCTION

One of the most basic features of the information age we live in is that the information has become an important power for each society. Especially information technology has been benefited to produce, share and use the information. So, the individuals endowed with these skills can be said to orientate themselves to the society more healthily. In order to accomplish this through the education, elementary education curriculum aims to make the students acquire computer literacy and information literacy skills that we can sum up in a way for students to retrieve, use and evaluate the information. In this sense, the lesson of Information Technologies was included into the elementary education curriculum and "Use of

Information Technologies" skill was included among the common skills that will be acquired to students in lessons as Turkish, Social Studies, Mathematics, etc.

The lesson of Information Technologies was firstly included as an elective course to the eight-year compulsory elementary education curriculum in 1997. In order to meet the teacher need of this course, Computer Education and Instructional Technology (CEIT) departments were established in reorganization processes of the Educational Faculties in 1998 to 1999 academic year (YÖK, 1998). Graduates of the department can become Information Technologies teachers primarily in elementary education, and then in secondary education in case

of need. Moreover, they can also work as an academician at universities, a project coordinator and developer in private sector, a web-based instructional designer or an educational software counselor.

Whereas the students were admitted to CEIT departments according to Sayısal-1 among the Higher Education Entrance Exam (YGS) grade point types, the students were started to be admitted according to YGS-1 grade point type in the testing system that became two-stage through the change made in 2010. The students preferring CEIT department was also benefited from the additional grade point implementation provided to encourage Vocational/Technical high school students for orientating to a higher education institution on their own fields. In that case, additional grade points obtained through the multiplication of Weighted High School Success Grade Point Average (High School Success Grade Point as of 2013) with 0.06 coefficient were given to the students.

CEIT departments rendering service in 52 undergraduate degree Faculties of Education (OSYM, 2012) have few samples in other countries. In many countries, instructional technologies programs provide training on postgraduate degree. In the United States of America, establishing these programs on undergraduate degree was considered; however, studies on this aspect have remained inconclusive. In Australia, Korea, Taiwan and some European countries, there have also been programs similar to the one in Turkey (Durdu and Yıldırım, 2005).

In Turkey and many other countries, teachers are noticed to have an impact upon social change and loaded with several political and social duties. In 43rd clause of 1739 numbered National Education Basic Law, teaching is defined as “a specialization assuming the education, teaching and relevant management duties of the state.” In order for teachers to fulfill all the expected duties and responsibilities, the quality of pre-service training should be maximized.

The reasons for pre-service teachers to prefer teaching profession have been analyzed under three categories in several conducted studies (Kyriacou and Coulthard, 2000; Kyriacou et al., 1999; Saban, 2003; Su, 1997; Yong, 1995): (1) Altruistic reasons: These depend on considering the happiness of the other people or the society more than their own happiness (social motivation). For example, desire to contribute upon social progress and success of children. (2) Intrinsic reasons: These cover the aspects related to the personality of the individual such as being disposed to acquire several different knowledge and skills (intrinsic motivation). (3) Extrinsic reasons: These represent the features arisen externally and not inherent in the individual such as holiday, wage and status (extrinsic motivation).

Reasons for pre-service teachers to prefer the profession differs from country to country. This can be the result of social, economic and cultural conditions of the

country being lived in. In developed countries such as Brunei (Yong, 1995), the United States of America and Norway (Kyriacou et al., 1999), England; intrinsic and altruistic reasons come to forefront more for preferring the profession. When some studies carried out in Turkey have been analyzed, it was noticed that the reasons to prefer the profession as is: Being affected from the teachers during the student days, approving the teaching profession as an appropriate profession; contributing to the future of the society positively, helping students to be successful, their caring for teaching and teaching profession (Boz and Boz, 2008; Hacıömeroğlu and Taşkın, 2010; Özsoy et al., 2010; Saban, 2003).

The attitudes which have an important power upon developing and orientating a behavior of the individual are defined as “A tendency that creates the thought, feelings, and behaviors of the individual related to a psychological object and attributed to the individual” (Tavşancıl, 2006: 67). Pre-service teachers’ being in a positive attitude towards the profession affects their success in the pre-service training and the profession positively. Being aware of the attitudes at a specific matter as positive or negative will help decision makers and implementers to take necessary precautions to overcome the problems. Many studies that analyze the attitudes of pre-service teachers towards the profession in terms of various variables have been carried out in Turkey (Aydın and Sağlam, 2012; Gürbüzürk and Genç, 2004; Hacıömeroğlu and Taşkın, 2010; Oral, 2004; Pehlivan, 2010). In the study carried out by Akbulut and Karakuş (2011), Physics, Chemistry, Biology, and Mathematics Secondary education pre-service teachers were noticed to have a positive attitude towards the profession and moreover, there were significant differences at attitude scores according to the grade and department variables. In the study of Üstüner et al. (2009), attitudes of pre-service teachers towards the profession were found to differ according to the reasons such as gender, department, ÖSS order of preference, type of teaching, socio-economic level of the family, intrinsic and extrinsic reasons for preferring the profession, and not to differ according to the variable of grade. In another study, it was concluded that attitudes towards the profession did not differ according to all variables (gender, department, grade, academic success, educational status of parents) (Şahin, 2010). Moreover, there were also studies revealing that attitude and behaviors of the lecturers make positive contributions upon pre-service teachers to develop democratic attitudes and to have and maintain the success and to be motivated towards the lesson (Bulut, 2006; Geçer and Deryakulu, 2004; Hotaman and Şahin, 2010).

When the researches carried out on information technologies pre-service teachers were analyzed in general (Akkoyunlu and Orhan, 2003; Altun and Ateş, 2008; Arıcı, 2007; Eşel et al., 2012; Numanoğlu and Bayır, 2009; Odabaşı et al., 2011; Orhan, 2005), department

curriculum, computer use/computer teaching self-efficacy of the students, expectations from the professions and individual differences were noticed to be analyzed more. In the study of Karataş (2010), considerations of CEIT department pre-service teachers related to the profession were analyzed using mind map analysis method. In the research, it was noticed that the pre-service teachers were confused about teaching, they had contradiction in terms of their department, some students had worries about their future and health. Moreover, students mentioned that they would like to be a web/graphic designer more after being graduated from the university. In the study in which Durdu and Yıldırım (2005) analyzed the perceptions of CEIT department students and lecturers related to the undergraduate program, they included the views of the participants related to the teaching profession. In this study, it was concluded that majority of the students considered to be an instructional technologist, a web designer or a computer programmer after graduation; they accepted "raising computer teacher" as the primary purpose of the department and they included "raising instructional technologist" among the purposes of the department.

For CEIT departments to fulfill the purposes expected from themselves in a more efficient and productive way, it has been considered that studies that analyze the reasons of students to prefer teaching profession –as in other branches- and their attitudes towards the profession are required to be carried out according to different variables. The results obtained in this study are expected to be helpful for pre-service teachers, implementers, and decision-makers to increase the quality of educational services, develop and evaluate undergraduate instructional programs. Answers to the questions below have been tried to be sought in this study which was carried out to analyze the reasons of information technologies pre-service teachers to prefer teaching profession and their attitudes towards the profession in terms of various variables:

1. What are the reasons for pre-service teachers to prefer teaching profession?
2. Do the reasons of pre-service teachers for preferring the teaching profession differ according to the variable of gender?
3. How are the attitudes of pre-service teachers towards the teaching profession?
4. Do the attitudes of pre-service teachers towards the teaching profession differ according to the variables of gender, graduated high school, order of department preference, level of grade, the profession wanted to be worked and attitude of the lecturer?

METHOD

Study model and participants

This research is a descriptive study on survey model. Survey model

is an approach aiming to describe a situation existed in the past or has still existed in a way it is (Karasar, 2005: 77). The research was carried out upon 160 students studying at the first (n=48), second (n=47), third (n=31) and final (n=34) grades of Inonu University Faculty of Education CEIT department in 2011-2012 academic year.

Data collection instruments

The instrument used to collect the data included two parts. In the first part, there were three-choice (not influential, partly influential, most influential) 20 clauses related to determining the reasons of students to prefer the teaching profession and questions related to the personal information. The studies that were carried out on this field (Kyriacou and Coulthard, 2000; Kyriacou et al., 1999; Saban, 2003; Su, 1997; Yong, 1995) were benefited to create these clauses. In the second part, there was "Information Technologies Teaching Attitude Scale" developed by the researcher. The clauses in the scale were on five-point Likert type including the choices as "I totally disagree", "I disagree", "I am indecisive or I have no idea", "I agree" and "I totally agree." Validity and reliability studies were performed to develop the scale. In order to create the scale clauses, some studies (Aşkar and Çelenk, 1988; Aşkar and Erden, 1987) researching for the attitudes towards the teaching profession were analyzed and open-ended questions examining the reasons to prefer the department, and positive and negative sides of the profession were addressed to a group of students. As result of these studies, draft form of the scale including 37 clauses was prepared. Five educational sciences experts, five information technologies teachers and a group of students asked for their opinions for the evaluation of the form in terms of the content and expression. In line with the feedbacks, the number of clauses was reduced to 27 and the scale was performed to 160 students studying at Gazi University, Dokuz Eylül University, Karadeniz Teknik University, Çukurova University and Atatürk University Faculties of Education CEIT departments. Factor analysis was performed to provide content validity of the scale based upon this implementation. Before the factor analysis, relevancy of data to the analysis was controlled with Kaiser-Meyer-Olkin (KMO) and Bartlett test and KMO value was found as .85 and Bartlett test result was found as 1260.95 ($p < .001$). These results proved that the data were convenient to be analyzed. Twenty-one clauses having factor load between .77 and .31 were included in the first factor. Eigenvalues used to find the variance explained by the factors were 6.45 for the first factor and 2.09 for the second factor. The variance rate explained by the first factor was 30.71%. In order for the scale to be one-factor in social sciences, it should explain at least 30% of the total variance, there should be nearly 3-3.5 times more or less difference between the eigenvalues of the first and second factors (Büyüköztürk, 2010: 125). Consequently, the scale was decided to have a mono-factor structure including 21 clauses. Thirteen of the clauses were positive and eight were negative expressions (Sample clauses: "I think Information Technologies teaching has a different place among the other branches", "It bothers me to think that I will be an Information Technologies teacher in the future."). Cronbach's Alpha reliability coefficient of the scale was .87.

Data collection and analysis

The data collection tool was performed upon Inonu University CEIT department students at the end of the 2011 to 2012 academic year spring term. The obtained data were analyzed using the SPSS program. Frequency and percentage were used to determine the reasons of students to prefer teaching profession and chi-square test was used to determine whether their reasons to prefer differ according to the variable of gender or not. The answers given to the

Table 1. The reasons affecting the preference of teaching profession.

Reason	Male (n=76) most influential	Female (n=84) most influential	Total most influential	chi- square test
	f(%)	f(%)	f(%)	p
Extrinsic reasons				
Teachers are paid quite well	3 (3.9)	0 (0.0)	3 (1.9)	---**
Teaching offers good job security and a steady income	19 (25)	18 (21.4)	37 (23.1)	.367
Teaching is a highly respected profession in society	29 (38.2)	25 (29.8)	54 (33.8)	.521
Teaching has long holidays/summer vacations	28 (36.8)	41 (48.8)	69 (43.1)	.119
My employment as a teacher is assured after graduation	7 (9.2)	17 (20.2)	24 (15)	.056
Teaching is advantageous when raising a family	14 (18.4)	28 (33.3)	42 (26.3)	.062
Other people (my family, relatives, friends) encouraged me to become a teacher	11 (14.5)	19 (22.6)	30 (18.8)	.043*
Altruistic reasons				
I believe that teaching is a sacred profession	38 (50)	38 (45.2)	76 (47.5)	.372
I want to contribute to the future of society	47 (61.8)	54 (64.3)	101 (63.1)	.715
I want to help children learn and succeed in school	48 (63.2)	58 (69)	106 (66.3)	.499
I want to share my knowledge with children	43 (56.6)	53 (63.1)	96 (60)	---**
I want to make a difference in children's lives	46 (60.5)	57 (67.9)	103 (64.4)	.301
I want to serve as a role model for children	46 (60.5)	61 (72.6)	107 (66.9)	.175
Intrinsic reasons				
I feel a sense of calling for teaching	18 (23.7)	15 (17.9)	33 (20.6)	.657
Teaching suits best to my personality	25 (32.9)	24 (28.6)	49 (30.6)	.723
I have a strong desire to work with children	22 (28.9)	34 (40.5)	56 (35)	.229
I love children	32 (42.1)	38 (45.2)	70 (43.8)	.523
My past schooling gave me a positive image of teaching	20 (26.3)	17 (20.2)	37 (23.1)	.142
Other reasons				
I preferred teaching not intentionally, but because of a mistake on preferences.	7 (9.2)	9 (10.7)	16 (10)	.302
I preferred teaching because I was not sure to carry on another profession.	4 (5.3)	6 (7.1)	10 (6.3)	.281

* $p \leq .05$, **Because cell number expected count less than 5 exceeded 20% of the total cell number, chi-square value was not given (Büyükoztürk, 2010: 145).

"Information Technologies Attitude Scale" were scored from 1 to 5 for from "I totally disagree" to "I totally agree"; and quite the opposite was scored for the negative answers. The lowest score that can be taken from the scale was 21 and the highest was 105. In order to carry out the evaluation, 21 to 48 score interval was accepted as "low", 49-76 as "medium" and 77-105 as "high". Kolmogorov-Smirnov test and Skewness value of the total scores taken from the scale met normality assumption and was homogenous according to the Levene test (Büyükoztürk, 2010: 39-40). Whether attitude scores differed according to the gender and the profession wanted to be carried on were tested using the independent samples t-test; and difference of graduated high school, order of preference and attitudes of the lecturer variables were tested using one-way ANOVA. Tukey test was benefited in order to determine among which groups the differences were found as significant according to the result of the ANOVA analysis.

RESULTS

The reasons affecting the preference of teaching profession

The data related to the decisions of students participated in the research for being information technologies teacher were given in Table 1. In Table 1, only the data related to the choice of "most influential" were presented.

According to the data in Table 1, the leading reasons mentioned as "most influential" by the pre-service teachers in terms of their decisions to prefer teaching profession was as: (1) I want to serve as a role model for children (66.9%), (2) I want to help children learn and

Table 2. t-test results of the attitude scores related to teaching profession.

Variables		N	M	SD	df	t	p
Gender	Female	84	74.95	14.46	158	1.55	.123
	Male	76	78.38	13.44			
Profession	Teaching	130	77.49	13.62	158	1.70	.090
	Other	30	72.67	15.40			

succeed in school (66.3%), (3) I want to make a difference in children's lives (64.4%), (4) I want to contribute to the future of society (63.1%), (5) I want to share my knowledge with children (60%). Whole of these reasons were in altruistic reasons group. The reason of "Teaching offers good job security and a steady income" in extrinsic reasons group affected 23.1% of the students, "My employment as a teacher is assured after graduation" affected 43.1% and "Teachers are paid quite well" affected 1.9% of the students. The rate of the students affected much from the reason of "I preferred teaching not intentionally, but because of a mistake on preferences" was 10%.

As result of the chi-square test performed to determine whether reasons of students to prefer the profession differ according to the variable of gender, a significant difference was only found in the clause of "Other people (my family, relatives, friends) encouraged me to become a teacher"; and no statistically significant difference was found in other clauses.

Attitudes towards the teaching profession

Descriptive statistics, t-test and ANOVA analysis results of pre-service teachers' attitude scores related to the variables of gender, the profession wanted to be carried on, graduated high school, order of department preference, level of grade and attitude of the lecturer were presented in Tables 2, 3 and 4.

It has been understood from Table 2 that, attitude score average of male students (M=78.38) was higher than the score averages of female students (M=74.95); and moreover, attitude score average of the students who wanted to carry on teaching profession (M=77.49) was higher than the ones who wanted to carry on another profession (M=72.67). As result of the performed t-test, the difference between the score averages of the groups was not found as statistically significant in terms of the variables of gender and the profession wanted to be carried on. Attitude scores in terms of the variables was at "medium" (between 49-76 interval) level for female students and the ones who wanted to carry on another business except from teaching profession and was at "high" (between 77-105 interval) level for male students and the ones who wanted to carry on teaching profession. General attitude score average of the participants

was calculated as M=76.58.

In Table 3, it was understood that Vocational High School graduated pre-service teachers had higher attitude scores than the graduates of other high schools (M=81.89). According to the variable of order of department preference, the highest average value included the ones who chose the department in their first three preferences (M=79.89), and the lowest included the ones who preferred on "11th and after" (M=70.11). In terms of the variable of grade level, whereas the first grade students had the highest value with 77.46 average score, third grade students had the lowest value with 75.84 average score. The average attitude score of the students who perceived the attitude of the lecturer as "democratic" against themselves was found as higher (M=79.14) than the average attitude score of the ones who perceived as "authoritarian" and "indifferent." Furthermore, it has been understood that attitude scores of the ones who graduated from Vocational High Schools, preferred the department on the first three preferences, studying at the 1st and 2nd grades and perceived the attitude of the lecturers as democratic were at "high" level (between 77-105 interval).

According to the ANOVA results in Table 4, the variables of graduated high school [$F_{(2,157)}=6.348$, $p<.01$] and order of preference [$F_{(3,156)}=4.361$, $p<.01$] had effects upon attitudes towards teaching; on the other hand, the variables of grade level and attitude of the lecturer did not have any effect upon the attitude scores. As result of the Tukey's test performed to determine from which groups the difference on the variable of graduated high school was arisen from, the difference between the attitude scores of the Vocational High School students (M=81.89) and the attitude scores of A+S+P High School students (M=71.96) were found as statistically significant. The difference on the variable of order of preference was between the students who preferred the department on the 1st-3rd line (M=79.89) and the ones who preferred on the 11th line and after (M=70.11).

DISCUSSION

In this study in which information technologies pre-service teachers' reasons for preferring teaching profession and their attitudes towards the profession were analyzed according to the variables of gender, graduated

Table 3. Descriptive statistics of attitude scores related to the teaching profession.

	Graduated high school			Order of preference				Level of grade				Attitude of lecturer		
	General High School	A+S+P High School*	Vocational High School	1-3	4-6	7-10	11 and after	1 st grade	2 nd grade	3 rd grade	4 th grade	Authoritarian	Indifferent	Democratic
N	66	47	47	91	29	21	19	48	47	31	34	28	73	59
M	76.09	71.96	81.89	79.89	73.07	72.95	70.11	77.46	76.55	75.84	76.06	75.79	74.82	79.14
SD	13.76	15.27	11.40	13.33	14.53	15.63	10.94	13.76	15.16	13.59	13.82	12.67	14.08	14.47

* Anatolian High School, Anatolian Teacher Training High School, Super High School and Private High School Groups.

Table 4. ANOVA analysis scores of attitude scores related to the teaching profession.

Variables		Sum of squares	df	Mean square	F	p	Significant difference
Graduated high school	Between groups	2347.106	2	1173.553	6.348	.002*	Between A+S+P High School and Vocational High School
	Within groups	29025.838	157	184.878			
	Total	31372.944	159				
Order of preference	Between groups	2427.439	3	809.146	4.361	.006*	Between 1-3 preferences and 11 and after
	Within groups	28945.505	156	185.548			
	Total	31372.944	159				
Grade level	Between groups	63.334	3	21.111	.105	.957	
	Within groups	31309.610	156	200.703			
	Total	31372.944	159				
Attitude of lecturer	Between groups	628.629	2	314.315	1.605	.204	
	Within groups	30744.314	157	195.824			
	Total	31372.944	159				

* $p \leq .01$

high school, order of preference, level of grade, the profession wanted to be carried on and attitude of the lecturer, the reasons of pre-service teachers were mostly noticed as the altruistic reasons. Thus, the first five clauses perceived as highly important were on this type. When the relevant literature was analyzed, researchers on

altruistic reasons (Özsoy et al., 2010; Saban, 2003; Wang, 2004) or intrinsic reasons (Boz and Boz, 2008; Hacıömeroğlu and Taşkın, 2010; Kyriacou and Coulthard, 2000) were encountered. Hatch (as cited in Saban, 2003: 100) accepted the prominence of altruistic reasons as dangerous and suggested those: "A teacher candidate

dealing with the difficulties of teaching profession in future can confront with situations such as losing the idealism, alienating from the profession and considering to leave the job." Hong (2010) also revealed results supporting this in his study. However, considering the intercultural differences, altruistic reasons can be a power source to cope

with difficulties of the professional life. In our study, prominence of altruistic reasons can be arisen from its being accepted as a sacred profession in Turkey. Thus, it has been noticed in many studies (Gürbültürk and Genç, 2004; Özsoy et al., 2010; Saban 2003) that have been carried out in Turkey that teaching has been perceived as a sacred profession.

In the research, it was remarkable that only less than one fourth of the pre-service teachers preferred teaching profession because of job guarantee after graduation and its having permanent income (Table 1). In studies that were carried out by Özsoy et al. (2010), Hacıömeroğlu and Taşkın (2010), Boz and Boz (2008), the reason of “job guarantee and having permanent income” was preferred less. Thus it was noticed in studies that CEIT department students were worried about not taking adequate score from Public Personnel Selection Examination (PPSE) and not being appointed (Altun and Ateş, 2008) and were despair of their future because of their department (Karataş, 2010). Significance level of many factors efficient upon preferring the teaching profession can vary according to the social, economic, and cultural conditions of the countries. For example, whereas an increase at the rate of the ones who preferred this profession was observed when the economic problems of countries increase, these rates decrease in countries that have a smooth economy (Kyriacou et al., 1999).

When the relationship between the reasons for pre-service teachers to prefer the profession and their gender, a statistically significant difference was found between the rates of female and male students only in one of the aforementioned reasons (other people – my family, relatives, and friends – encouraged me to become a teacher). According to this, the people in the immediate surroundings can be said to be affecting female students more for the preference of profession. In a study carried out by Sanalan et al. (2010) upon CEIT department first grade students, similar results were obtained. In the study of Özsoy et al. (2010), there was found no difference between the male and female students in terms of being affected from the immediate surroundings. These results prove that social surroundings of students play a great role upon the profession preference. Teaching’s being an ideal profession to start a family in the future was considered more by the female students than the males. It was also revealed in relevant studies that the male students had the perception of the profession’s having low status to start a family, and the family and society had a positive effect upon the female students’ preferring the teaching profession (Butt et al., 2010; Mtika and Gates, 2011). The female students who found intrinsic reasons of “I love working with children” and “I love children” very influential were more than the male students in number. However, female and male students can be mentioned to have similar views upon their reasons of preferring the teaching profession when chi-square test results were taken into consideration.

Attitudes of pre-service teachers towards the profession were analyzed in terms of various variables. It was understood from the performed analysis that the attitudes did not differ according to the variable of gender. This revealed that female and male students had similar attitudes towards the profession. Whereas no difference was found according to the gender in some of the studies analyzing the attitudes of pre-service teachers in different branches (Gürbültürk and Genç, 2004; Hacıömeroğlu and Taşkın, 2010; Şahin, 2010), differences in favor of the female students were found in the other part (Aydın and Sağlam, 2012; Oral, 2004; Pehlivan, 2010; Tekerek and Polat, 2011; Üstüner et al., 2009). In relevant studies, it was understood that professional expectations of the CEIT department pre-service teachers did not differ according to the variable of gender (Arıcı, 2007); professional competence differed according to the gender (Numanoğlu and Bayır, 2009); female students accepted themselves weaker than the male pre-service teachers in terms of the technical knowledge and skills (Demirli et al., 2012).

Majority of the pre-service teachers (81.3%) wanted to carry on teaching profession after their graduation. The pre-service teachers did not consider other jobs such as computer programming and web designing except from teaching. This result can be said to be associating with the “teacher-raising” purpose of the department. CEIT department students were also noticed as having the similar views in relevant studies, as well (Arıcı, 2007; Eşel et al., 2012; Karataş, 2010; Numanoğlu and Bayır, 2009; Orhan, 2005). In the study of Durdu and Yıldırım (2005), majority of the students were found to be considering the professions apart from teaching (instructional technologist, web designer, computer programmer, etc.) as being different from the result of our study. However, in the study of Arıcı (2007) significant differences were found between the professional competence, laboratory properties, professional knowledge presentation, and professional development dimensions related to the undergraduate education of CEIT department pre-service teachers. In another study (Sanalan et al., 2010), differences at viewpoints of CEIT department students in two different universities to the department curriculum were observed.

In the research, attitude score average of the ones considering to carry on teaching profession after graduation was found as higher than the attitude score average of the ones considering to carry on another profession except from teaching. In a similar study (Orhan, 2005), self-efficacy beliefs of candidates considering to be a teacher related to computer teaching and using computer were found as higher than the other groups. In another study including the CEIT department (Tekerek and Polat, 2011), teaching attitude scores were observed to differ in favor of the ones wanted to carry on teaching after graduation.

In our research, whether there was a relationship

between the gender and the profession wanted to be carried on after graduation or not were controlled using the crosstab and chi-square test. According to the result of the analysis, 88.1% of the female students wanted to be a teacher, this rate was 73.7% for males, and chi-square value was found as significant ($X^2_{(1)}=5.439$, $p<0.05$). According to this result, female students can be said to carry on teaching profession more than the males. In relevant studies, it was mentioned that teaching profession was perceived as a profession for females due to the working conditions and comfort and females interiorized this consideration, and moreover, this was explained through, the life conditions depending upon the teaching profession and cultural and economic conditions of the society being lived in (Butt et al., 2010; Üstüner et al., 2009).

The leading high schools from which students that participated in the research graduated were General High Schools (41.3%), Vocational High Schools (29.4%) and A+S+P High School was the subsequent. Because computer department graduates of Vocational High Schools take additional score when they prefer CEIT department at the university entrance exam, they are more advantageous than the graduates of other secondary education institutions. However, it is surprising in the research that the rate of Vocational High School graduates is higher than the rate of the graduates of general high school. In relevant studies, as well, it has been noticed that majority of CEIT department students were Vocational High School graduates and the leading reason for them to prefer the department was "taking additional score and being a vocational high school graduate" (Akkoyunlu and Orhan, 2003; Durdu and Yıldırım, 2005; Eşel et al., 2012; Sanalan et al., 2010). In our research, attitude scores of the students towards the profession showed a significant difference according to the variable of the secondary education institution. A significant difference in favor of the Vocational High School was observed between the attitude scores of Vocational High School and A+S+P High Schools. This can be interpreted in a way that it is an appropriate implementation to orient students to a higher education institution related to their own field and this render service that helps students to develop a positive attitude towards the profession they will carry on. In his study, Arıcı (2007) revealed differences in favor of Vocational High School and expectations of these two groups from the profession.

Ninety-one (56.9%) of the research participants' preferring the department in the first three preferences (this rate is up to 75% with the ones preferring at the 4th to 7th preferences) and attitude scores' revealing a significant difference in favor of the students in this group can be interpreted in different ways: (1) As mentioned by Akkoyunlu and Orhan (2003) a great number of the ones who preferred the department primarily can be expressed their admitting the department willingly and intentionally.

In our research, low rate of the ones who said that "I preferred teaching not intentionally but because of a mistake on my preferences" can be an evidence for this comment (Table 1). Moreover, there have been studies that reveal difference of professional expectations and competences in favor of the ones who preferred on their upper preferences and number of the ones who preferred this department willingly and intentionally has been much in terms of both the pre-service teachers in computer and other branches (Arıcı, 2007; Numanoğlu and Bayır, 2009; Oral, 2004; Tekerek and Polat, 2011; Üstüner et al., 2009). However, there have also been studies in which professional attitudes according to the order of preference did not differ (Aydın and Sağlam, 2012; Çapa and Çil, 2000). (2) Another reason to prefer the department primarily can be the grade's taken from the OSS becoming adequate only for this department. In many studies (Boz and Boz, 2008; Hacıömeroğlu and Taşkın, 2010; Özsoy et al., 2010), a significant part of the pre-service teachers were noticed to prefer this department because of this reason and as being obliged to prefer this profession. In our research, the relationship between the pre-service teachers' order of preference and the type of the graduated high school was analyzed using the crosstab. According to this, whereas 72.3% of the Vocational High School graduates showed the department in the first three preferences, these rates were 51.5 and 48.9% for the General High School and A+S+P High School graduates, respectively. Therefore, significant differences in favor of the ones preferring the department in the first three preferences can be arisen from Vocational High School most graduates' preferring the department in the first three preferences when compared to the other groups.

When attitude scores were analyzed according to the level of grade the students studying at, it could be said that the highest average was at the first grade and there was a downward decrease at averages from lower grades to upper. As result of the performed analysis, it was understood that the variable of grade had no effect upon the attitude scores of the students. This result did not meet the expectation that as the level of grade increases, attitude scores increase, as well. Accordingly, the curriculum applied during the four-year education cannot be mentioned as having a positive effect upon the attitudes of pre-service teachers towards the instructional program. In the study of Arıcı (2007), it was noticed that professional expectancy scores of CEIT department students did not differ according to the grades. In the relevant literature, different results were encountered, as well. For example, whereas in the studies of Pehlivan (2010) carried out upon physical education and Akbulut and Karakaş (2011) upon physics and chemistry teachers, a significant decrease was noticed in attitude scores as the level of grade increased, in a study carried upon the classroom teachers, a significant difference in favor of the classroom teacher was found. In the study of

Çapa and Çil (2000) conducted upon six different department students, a significant difference was found in favor of 3rd grade students between the 2nd and 3rd grade students. There have also been studies in which professional attitudes did not differ according to the variable of grade (Oral, 2004; Şahin, 2010; Tekerek and Polat, 2011; Üstüner et al., 2009). In our research, the reason for the decrease at attitude scores towards the upper grade can be difficulties experienced in teacher appointments and PPSE stress. Thus, when the studies related to pre-service computer teachers have been analyzed (Altun and Ateş, 2008; Eşel et al., 2012; Karataş, 2010), the pre-service teachers have been noticed as being worried and indecisive about their future and the profession they will carry on after graduation.

Lastly, the attitudes of lecturers towards the pre-service teachers and whether attitudes of the pre-service teachers were affected from this were analyzed. According to this, more than half of the students (63.1%) considered that the lecturers behaved them in an authoritarian and indifferent way. This finding can be interpreted as such that the lecturers cannot create a positive and democratic classroom environment. As result of the analysis, attitudes of the students towards the profession were noticed to be not being affected from the attitudes of the lecturers. It is surprising that the highest attitude average concerned the students who perceived the attitude and behaviors of the lecturers as democratic. In a study carried out upon the roles of teachers (Demirpolat, 2006), whereas pre-service teachers were undecided about the static (institutive) roles, they were more sensitive towards the democratic and global teacher roles. In the study of Yılmaz (2013), pre-service teachers were proved as having an authoritarian class management profile and there was a positive relationship between their teacher self-efficacy beliefs and authoritarian class management profiles. Love, respect and tolerance underlies on the basis of teaching profession. Getting pre-service teachers adopt affective properties can be possible in a democratic classroom atmosphere. Teachers being loved and respected by students can create positive effects upon them. When the issue has been analyzed in terms of the lecturers, the situations differs. Thus, in the study of Aydoğan and Kukul (2003), it was noticed that the lecturers displayed democratic behaviors against the students in many situations.

Summary of findings

At the end of this research, the students were emerged to be affected mostly from the altruistic reasons such as “I want to serve as a good role model for children” and “I want to contribute to the future of the society.” Moreover, nearly whole of the students have considered that the teacher salaries are too low. The reasons to prefer the profession –except from one (Other people-my family,

relatives and friends- encouraged me to become a teacher) – differed according to the gender. Majority of the pre-service teachers (81.3%) considered to carry on teaching profession; the ones graduated from General High School were more than the ones graduated from the Vocational High School and other high schools; majority of the students (75%) preferred the department in the first six preferences; more than half of the students (63.1%) evaluated the attitudes of the lecturers as “authoritarian” or “indifferent.” Whereas the high school the students graduated from and order of department preference affected their attitudes towards the teaching profession; the variables of gender, grade, the profession wanted to be carried on and attitude of the lecturer was found to have no effect upon the attitudes of students. The attitudes of pre-service teachers towards the teaching profession, in general, were positive-though, limited- and at a good level (between 77 to 105 interval). However, this should be brought to a better degree not finding as adequate.

Suggestions

In order to provide orientation of individuals to information technologies teaching, the profession should be made more attractive in terms of the salary. After graduation, the difficulties in being appointed to teaching profession should be removed. Moreover, in order to raise pre-service teachers in a way they can work as a computer programmer, web designer or instructional technologist in private sector, regulations should be made in department curriculum. In order for Vocational High School graduates to prefer the department, vocational guidance services should be activated except from the additional score implementation. This orientation will help raise the graduates of the department as being more qualified. Especially, the lecturers attending the courses of the pre-service teachers should exhibit democratic behaviors on classroom management and should be a good role model to the teachers of the future.

Suggestions for further research

In order to generalize the results of the research, further studies are needed including the CEIT departments of other universities. It is having some troubles in terms of physical equipment; lecturer and instructional programs can affect the quality of pre-service teaching negatively. Through the studies on this, information technologies teachers that have positive attitudes can be trained contributing to the development of departments. Furthermore, effects of different variables such as teaching methods and techniques and learning styles upon the professional attitudes can be analyzed as well as carrying out further studies related to developing CEIT department undergraduate instructional programs.

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