

Pre-service Teachers' Learning Styles and Attitudes toward Teaching Profession

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Abstract

This study examines pre-service teachers' learning styles and attitudes toward teaching profession, and determines the impact of learning styles on their attitudes toward teaching, by analyzing various factors including gender, teaching program, grade level, grade point average, and type of graduated high school. Participants were 1321 pre-service teachers, studying in a middle sized public university, located in the Mediterranean region of Turkey. Data were collected during the fall semester of 2013-2014 academic year, from nine teacher education programs. Kolb's Learning Style Inventory and Attitude Scale towards the Profession of Teaching were used as data collection instruments. Results revealed that pre-service teachers mainly had converging and assimilating learning styles, and they showed positive attitudes towards teaching profession. The mean attitude score of convergers was significantly higher than divergers, and assimilators; while, the mean attitude score of accommodators was not significantly different from others. In addition, there were significant association between learning styles and gender, teaching program, grade level, and grade point average; however, no association between learning styles and type of high school graduated. Moreover, there were significant differences in pre-service teachers' attitude scores considering their gender, teaching program, grade level, grade point average, and type of graduated high school.

Key Words: Learning styles, attitude, teaching profession, teacher education

Introduction

Learning Styles

Every person learns in a different way and acquire information quite differently. One learns best by watching, one by reading, one by listening, and one by doing. Particularly, individuals learn more effectively when they use their preferred method of learning, which is also called learning style.

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Learning styles consist of behaviors and affections which give clues about how an individual perceives and processes information in a certain learning situation (Weinstein and Mayer, 1986). Kolb (1999) states that paying attention to students' learning styles and making necessary arrangements in the teaching manner can increase students' learning capacity, and hence improve learning to a great extent.

According to Kolb (1984), there are four learning modes (see figure 1); *abstract conceptualization* (AC: learning by thinking), *concrete experience* (CE: learning by feeling), *active experimentation* (AE: learning by doing), and *reflective observation* (RO: learning by watching) as theorized in the experiential learning theory. Simply, AC and CE are related with how a learner perceives information such as gaining and comprehending knowledge, whereas AE and RO are related with how a learner processes information such as transforming and internalizing knowledge. Learning occurs somewhere along these two continuums; reflection to activity (horizontal axis) and abstractness to concreteness (vertical axis). Therefore, combining the two continuums leads to four learning styles; *diverging* (RO and CE), *assimilating* (RO and AC), *converging* (AE and AC), and *accommodating* (AE and CE). For instance, if a learner prefers doing the task rather than watching it, and feeling the experience rather than thinking about it, then he or she has an accommodating learning style.

In particular, Kolb (1984) defines accommodators as individuals that learn best by doing and feeling. They enjoy working in groups and sharing information. Simply, they are good at taking roles that require action and initiative. Their strengths consist of practicality, leadership, and taking risks. Unlike accommodators who rely on intuition and personal information, assimilators prefer to use logical analysis while solving problems. They learn best by observing and thinking. They focus on ideas and abstract concepts, and integrate a wide range of information and observation to formulate theories. They are good at making experiments, analyzing information, and developing models.

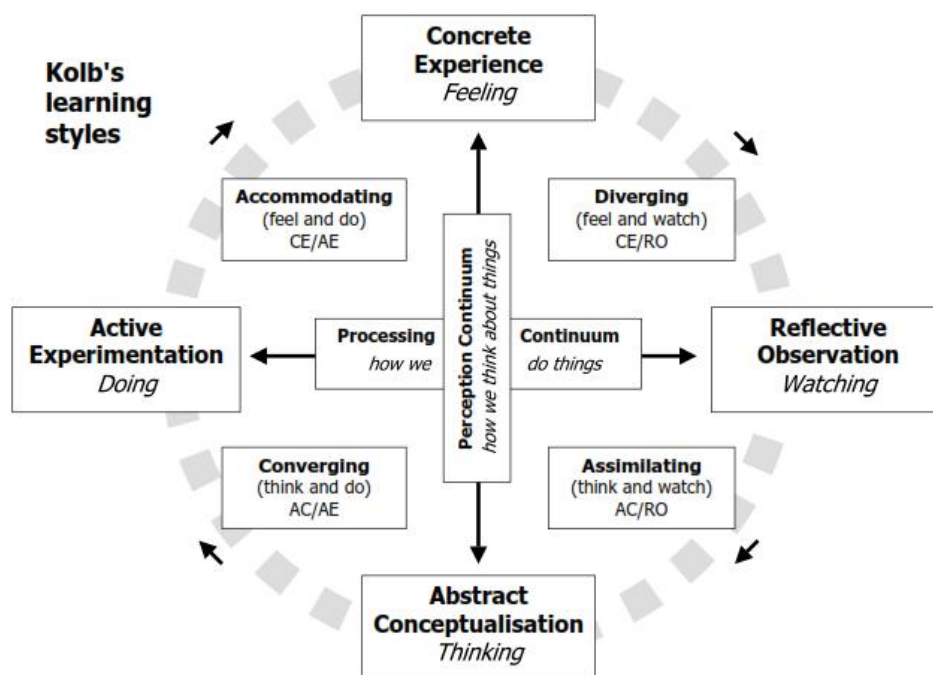


Figure 1. Kolb's Learning Cycle and Learning Types

Besides, convergers are the individuals that learn best by thinking and doing. They retain information most through combining theoretical information and practical experience. That said, they can put different ideas into a single conclusion and find practical uses for theories. That is why, they are good at decision making, problem solving, and evaluating outcomes. Unlike convergers who are concerned with 'how to make this?' divergers focus more on 'how things happen?'. They learn best

by feeling and observing. Basically, divergers are patient and careful individuals that like to observe things from different angles and come up with a wide range of perspectives. They like using imagination, and appreciate working on creative activities. Besides, they give importance to interpersonal issues and prefer working in groups for gathering different point of views.

Learning style is field of study with a long history. However, an initial review of the literature reveals that it is a relatively new field of study in Turkey, and more research is need in Turkish school context. In two very recent study, it was found that most of the pre-service teachers in Turkey prefer assimilating learning style, followed by converging, diverging and accommodating learning styles (Şengül, Katranci and Bozkuş, 2013; Karakış, 2012). Besides, there are a number of studies that show a significant difference in pre-service teachers' learning styles regarding grade level (Karademir and Tezer, 2010; Özdemir and Kesten, 2012; Şengül, Katranci and Bozkuş, 2013), teaching program (Kahyaoğlu, 2011), and gender (Karademir and Tezer, 2010).

Attitudes toward Teaching Profession

Attitude refers to an individual's positive or negative tendency toward an object, person or incident (Kağıtçıbaşı, 1999), giving important clues about one's feeling, opinion and behavior. In this aspect, a teacher's attitude toward teaching profession plays an important role in the quality of teaching process, as it predicts most of his or her occupational behavior (Durmuşoğlu, Yanık & Akkoyunlu, 2009). In teaching, it is not enough just to have knowledge about the subject matter to be taught. A teacher candidate should also adopt proper attitudes, beliefs and sincerity toward teaching. Indeed, according to Üstüner (2006), this is one of the vital requirements for being a teacher.

In Turkey, a number of studies were conducted to examine pre-service teachers' attitudes toward teaching profession. In a recent study, Receptoğlu (2013) examined pre-service teachers' life satisfaction and attitudes toward teaching profession. A positive relationship was found between the variables; in particular, life satisfaction predicted attitudes towards teaching profession and explained 23% of the total variance in attitudes. In another study, Bektaş and Nalçacı (2012) examined the relationship between personal values and attitude towards teaching profession. Findings showed that personal values, including discipline, responsibility, confidence, forgiveness, faithfulness, and sharing, predicted 22% of the total variance in attitudes.

Regarding demographic variables, Kayan Fadlelmula (2013) examined pre-service teachers' attitudes with respect to gender and grade levels. The results revealed that pre-service teachers had positive and high attitudes towards teaching profession, and their attitudes differed regarding both variables. In particular, females had higher attitudes than males. Besides, pre-service teachers' attitudes decreased as they moved from beginner to senior level. In a similar study, Ozan and Bektaş (2011) examined pre-service teachers' attitudes regarding gender, grade level, and economic level of parents. The results showed that there were differences in attitudes considering gender, but no difference with respect to grade level and economic level of parents.

Furthermore, Üstüner, Demirtaş and Cömert (2009) examined pre-service teachers' attitudes considering gender, teaching program, order of this program in the University Entrance Examination preference list, socio-economic status of the neighborhood and family they live in, grade level, type of schooling, and reasons for choosing teaching profession. Their results indicated that attitudes did not differ with respect to grade level and type of schooling, but there were significant differences in attitudes when the other variables were considered, such as gender and teaching program. In another study, Bulut (2009) studied pre-service teachers' attitudes considering gender, university, and teaching program. The findings showed that attitudes differed with respect to the teaching program, but not with gender or university attended. Similarly, in Aksoy's (2010) study, significant differences were found in attitudes with respect to the teaching program attended.

However, unlike these studies, in Açışlı and Kolomoç's (2012) study no significant difference was found in pre-service teachers' attitudes regarding gender, grade level, and type of high school graduated. Also, in Bozkırlı and Er's (2011) study, no significant difference was found in attitudes regarding teaching program, gender and type of high school graduated. Likewise, Hacıömeroğlu and Taşkın (2010) found no difference in pre-service teachers' attitudes regarding gender and teaching program attended.

Interplay between Learning Styles and Attitudes toward Teaching

There are few research studies in the literature that explore the relationship between pre-service teachers' learning styles and attitudes toward teaching profession. Among the very few studies, Kahyaoğlu, Tan and Kaya (2013) conducted a research with 260 pre-service teachers, enrolled in a middle size public university located at the eastern region of Turkey. Their results revealed that there was a weak relationship between pre-service teachers' attitudes toward teaching and their preferred learning styles. In another recent study, Çiğdem and Memiş (2011) carried out a research with 367 pre-service teachers in a public university at the northern part of Turkey. They found a strong relation between learning styles and attitudes towards teaching. Similarly, Denizoglu (2008) conducted a research with 902 pre-service science teachers enrolled in three public universities located at the central part of Turkey. Her findings supported the existence of a strong relation between learning styles and attitudes towards teaching. On the other hand, in Baykara Pehlivan (2008)'s study, no relationship was found between these two concepts.

Research Questions

The present study attempted to respond to the following research questions:

1. Which learning styles do pre-service teachers prefer?
2. Is there a relationship between pre-service teachers' learning styles and their gender, teaching program, grade level, grade point average, and type of graduated high school?
3. What is the attitude of pre-service teachers toward teaching profession?
4. Do pre-service teachers' attitudes differ with respect to gender, teaching program, grade level, grade point average, and type of graduated high school?
5. Do pre-service teachers' attitudes differ with respect to learning styles?

Method

Participants

The participants consisted of 1321 pre-service teachers (female=875, %=66.2; male=446, %=33.8), studying in a middle sized public university located in the Mediterranean region of Turkey. Data were collected during the fall semester of 2013-2014 academic years, from four grade levels; Grade 1 (f=353, %=26.7), Grade 2 (f=395, %=29.9), Grade 3 (f=313, %=23.7), and Grade 4 (f=260, %=19.7). In general, the number of pre-service teachers in each grade level was similar to each other, and the number of females in each grade level was higher than the number of males.

Pre-service teachers were attending to one of the following teacher education programs; Computer and Teaching Technologies (f=109, %=8.3), Science Education (f=173, %=13.1), Elementary Mathematics Education (f=137, %=10.4), Early Childhood Education (f=121, %=9.2), Music Education (f=73, %=5.5), Art Education (f=55, %=4.2), Elementary Education (f=332, %=25.1), Turkish Language Teaching (f=169, %=12.8), Foreign Language Teaching (f=152, %=11.5). Table 1 presents detailed information about the demographic data belonging to the participants, including their gender, teaching programs, and grade levels with frequencies and percentages.

In addition, regarding grade point averages (GPA), most of the pre-service teachers indicated GPA between 2.50/2.99 (f=341, %=30.4) and GPA between 3.00/3.49 (f=344, %=26). As the data were collected during the fall semester, pre-service teachers in the first grade level (f=353, %=26.7) could not give any information about their GPA. Lastly, regarding high schools, most of the pre-service teachers graduated from Anatolian high school (f=486, %=36.8) or public high school (f=464, %=35.1). Only a few of them were a graduate of foreign language high school (f=15, %=1.1) or Anatolian teacher education high school (f=138, %=10.4).

Table 1.
Demographic Information about the participants

Gender	Teaching Programs	Grade 1		Grade 2		Grade 3		Grade 4		Total	
		f	%	f	%	f	%	f	%	f	%
Male	Computer and Teaching Technologies	0	0	15	5.8	10	4.7	13	8.3	38	4.3
	Science Education	36	14.5	36	14	30	14.1	28	17.9	130	14.9
	Elementary Math Education	27	10.8	29	11.3	23	10.8	15	9.6	94	10.7
	Early Childhood Education	34	13.7	29	11.3	25	11.7	16	10.2	104	11.9
	Music Education	16	6.4	13	5.1	6	2.8	11	7.1	46	5.4
	Art Education	0	0	13	5.1	14	6.6	9	5.8	36	4.1
	Elementary Education	62	24.9	70	27.2	60	28.2	34	21.8	226	25.8
	Turkish Language Teaching	32	12.9	27	10.5	21	9.9	13	8.3	93	10.6
	Foreign Language Teaching	42	16.8	25	9.7	24	11.2	17	11	108	12.3
	Total		249	100	257	100	213	100	156	100	875
Female	Computer and Teaching Technologies	3	2.9	21	15.2	23	23	24	23.1	71	15.9
	Science Education	15	14.4	9	6.5	5	5	14	13.5	43	9.6
	Elementary Math Education	11	10.6	15	10.9	8	8	9	8.7	43	9.6
	Early Childhood Education	5	4.8	6	4.3	3	3	3	2.9	17	3.8
	Music Education	7	6.7	7	5	5	5	8	7.7	27	6.1
	Art Education	0	0	5	3.6	6	6	8	7.7	19	4.3
	Elementary Education	28	26.9	41	29.8	22	22	15	14.4	106	23.8
	Turkish Language Teaching	26	25	20	14.6	18	18	12	11.4	76	17
	Foreign Language Teaching	9	8.7	14	10.1	10	10	11	10.6	44	9.9
Total		104	100	138	100	100	100	104	100	446	100

Data Collection Instruments

Kolb's Learning Style Inventory

This scale was developed by Kolb (1999), and adapted to Turkish by Gencel (2006). It was composed of 12 items, each with four options that ask individuals to rank four learning preferences that best describe their learning styles, as Abstract Conceptualization (AC) (e.g.: 'When I learn, I like to think about ideas'; 'I learn best from rational theories'), Active Experimentation (AE) (e.g.: 'When I learn, I like to be doing things'; 'I learn best from a chance to try and practice'), Concrete Experience (CE) (e.g.: 'When I learn, I like to deal with my feelings'; 'I learn best from personal relationships') and Reflective Observation (RO) (e.g.: 'When I learn, I like to watch and listen'; 'I learn best from observation'). The total scores obtained from the inventory change between 12 and 48, measuring an individual's relative emphasis on the four learning modes: CE, RO, AC, and AE.

Integrated scores were calculated by subtracting CE-AC and AE-RO. These scores ranged between -36 and +36. The positive score obtained from CE-AC showed that learning was concrete;

whereas, negative score pointed out that learning was abstract. Similarly, positive score obtained from AE-RO showed that learning was active; whereas, negative score pointed out that learning was reflective. The dominant learning style of an individual was found by determining the conjunction points of the integrated scores, with the help of the coordinate axis. The reliability of the adapted inventory was studied by Gencil (2006), using Cronbach alpha coefficient. The alpha values were calculated for CE, RO, AC, and AE as .76, .71, .80, and .75 respectively, indicating good internal consistency.

Attitude Scale towards the Profession of Teaching

This scale was developed by Üstüner (2006), as a self-report questionnaire having a single dimension with 34 items written on five points, rated as 5=strongly agree, 4=mostly agree, 3=moderately agree, 2=partly agree, 1=strongly disagree. Among 34 items, 24 of them represent positive attitudes (e.g.: 'The idea of teaching people something that they do not know makes me happy' and 'I think teaching will give me chances to produce and develop new things'), and 10 of them represent negative attitudes (e.g.: 'I think teaching is not a suitable job for me' and 'I regret that I chose teaching profession').

Before calculating the total attitude scores, negatively worded items were reversed as 1=5, 2=4, 3=3, 4=2, and 5=1. Therefore, the maximum total score was 170 (34x5), whereas the minimum total score was 34 (34x1). Higher scores indicated positive attitudes towards teaching profession and lower scores indicated negative attitudes. The reliability of the scale was reported by Üstüner (2006) as .93 Cronbach alpha, demonstrating a high internal consistency.

Results

Results Regarding Learning Styles

Pre-service teachers mainly preferred converging learning style (n=690, f=52.2%). Some of them had assimilating learning style (n=350, f=26.5%). Only a few of them had accommodating (n=149, f=11.3%) or diverging (n=132, f=10%) learning styles. Table 2 summarizes information about the distribution of learning styles according to gender, teaching program and grade level, with frequencies and percentages.

In particular, both male and female pre-service teachers were mostly convergers. In addition, pre-service teachers in all teaching programs and at all grade levels mostly preferred converging learning style. After converging learning style, the most commonly preferred style was assimilating learning style, for all gender, teaching program and grade level. Besides, the frequency of accommodators and divergers changed regarding gender and some teaching programs; but, the frequency of accommodators was always higher than the frequency of divergers at all grade levels.

The relationship between pre-service teachers' learning styles and the demographic variables were explored by conducting chi-square tests for independence. The results of the statistical tests revealed that there were significant association between pre-service teachers' learning styles and gender ($X^2(3,1321)=14.83, p=.002$), teaching programs ($X^2(24,1321)=47.94, p=.003$, Cramer's $V=.110$), grade levels ($X^2(9,1321)=17.03, p=.048$, Cramer's $V=.066$), and GPA ($X^2(12,1321)=22.91, p=.029$, Cramer's $V=.076$). However, there was no significant association between learning styles and type of high school graduated ($X^2(15, 1321)=11.44, p=.72$).

According to Cohen (1988), the value of Cramer's V indicates the effect size of the association for four categories (divergers, accommodators, convergers, assimilators), with the following criteria; small=.06, medium=.17, and large=.29. So, according to this criteria, the effect size of the association between learning style and gender (Cramer's $V=.11$), the association between learning style and teaching program (Cramer's $V=.11$), the association between learning style and grade level (Cramer's $V=.07$), and the association between learning style and GPA (Cramer's $V=.08$) were all small, having values less than .17.

Table 2.
Distribution of Learning Styles by Teaching Program, Grade Level, and Gender

		Converger		Assimilator		Accommodator		Diverger	
		f	%	f	%	f	%	f	%
Teaching Programs	Computer and Teaching Technologies	62	56.9	20	18.3	12	11	15	13.8
	Science Education	102	59	45	26	11	6.4	15	8.7
	Elementary Math Education	76	55.5	41	29.9	8	5.8	12	8.8
	Early Childhood Education	60	49.6	27	22.3	22	18.2	12	9.9
	Music Education	33	45.2	11	15.1	17	23.3	12	16.4
	Art Education	28	50.9	15	27.3	7	12.7	5	9.1
	Elementary Education	176	53	89	26.8	42	12.7	25	7.5
	Turkish Language Teaching	80	47.3	56	33.1	13	7.7	20	11.8
	Foreign Language Teaching	73	48	46	30.3	17	11.2	16	10.5
Grade Level	Grade 1	167	47.3	117	33.1	35	9.9	34	9.6
	Grade 2	225	57	96	24.3	43	10.9	31	7.8
	Grade 3	165	52.7	77	24.6	36	11.5	35	11.2
	Grade 4	133	51.2	60	23.1	35	13.5	32	12.3
Gender	Female	479	54.8	234	26.7	92	10.5	70	8
	Male	211	47.3	116	26	57	12.8	62	13.9

Results Regarding Attitudes towards Teaching

Pre-service teachers mainly had positive and high attitudes (Mean=4.00, SD=.69) towards teaching profession. When the mean attitude scores were examined for each instrument item, it was found that pre-service teachers indicated their most agreement to the items “The idea of teaching people something that they do not know makes me happy” (Mean=4.41, SD=.95), “I believe that I will succeed in teaching” (Mean=4.37, SD=.96), and “I regard teaching as suitable for me” (Mean=4.33, SD=1.03). On the other hand, they indicated their most disagreement to the items “I am worried that teaching will be bothering me” (Mean=3.36, SD=1.28), “If I could choose an occupation again, I would choose teaching” (Mean=3.45, SD=1.41), and “The working conditions of teaching attracts me” (Mean=3.65, SD=1.25).

One-way between-groups analyses of variance were conducted to explore the impact of demographic variables on pre-service teachers’ attitudes toward teaching profession. Results revealed that attitude scores significantly differed at the $p < .05$ level considering pre-service teachers’ gender ($F(1,1241) = 62.87, p = .000$), teaching program ($F(8,1234) = 2.10, p = .033$), grade level ($F(3,1239) = 7.11, p = .000$), GPA ($F(4,1238) = 7.97, p = .000$), and type of high school graduated ($F(5,1237) = 4.05, p = .001$).

According to Cohen (1988), the effect size of the impacts can be calculated with eta squared, by dividing the sum of squares for between groups to the total sum of squares. Cohen classifies effect sizes as follows; small=.01, medium=.06, and large=.14. So, despite reaching statistical significance, according to Cohen’s criteria, the actual differences in the attitude scores regarding gender (eta squared=.048), teaching program (eta squared=.013), grade level (eta squared=.017), GPA (eta squared=.025), and type of high school graduated (eta squared=.016) were all small, having values less than .06.

Multiple comparisons were made among different teaching programs, grade levels, GPA, and type of high school graduated, using Tukey Honestly Significant Difference (HSD) test. The results

indicated there was no significant difference in attitude scores considering different teaching programs. However, there were significant differences in attitude scores regarding grade levels. Specifically, there were differences between Grade 1 and Grade 2 (Mean Difference=4.91, $p=.027$), between Grade 1 and Grade 3 (Mean Difference=5.88, $p=.008$), and between Grade 1 and Grade 4 (Mean Difference=8.73, $p=.000$). These differences can be visually inspected at Figure 2. As can be easily seen from the figure, the attitude scores were the highest at the first grade level, and they decreased significantly when moved from Grade 1 to Grade 4.

There were also significant attitude score differences between pre-service teachers having different grade point averages. In particular, there were differences between 2.00/2.49 and 2.50/2.99 (Mean Difference=7.42, $p=.005$), and between 2.00/2.49 and 3.00/3.49 (Mean Difference=8.43, $p=.001$). Lastly, regarding high schools, there was significant attitude score difference between pre-service teachers that graduated from public schools and Anatolian teacher education high schools (Mean Difference=4.50, $p=.033$).

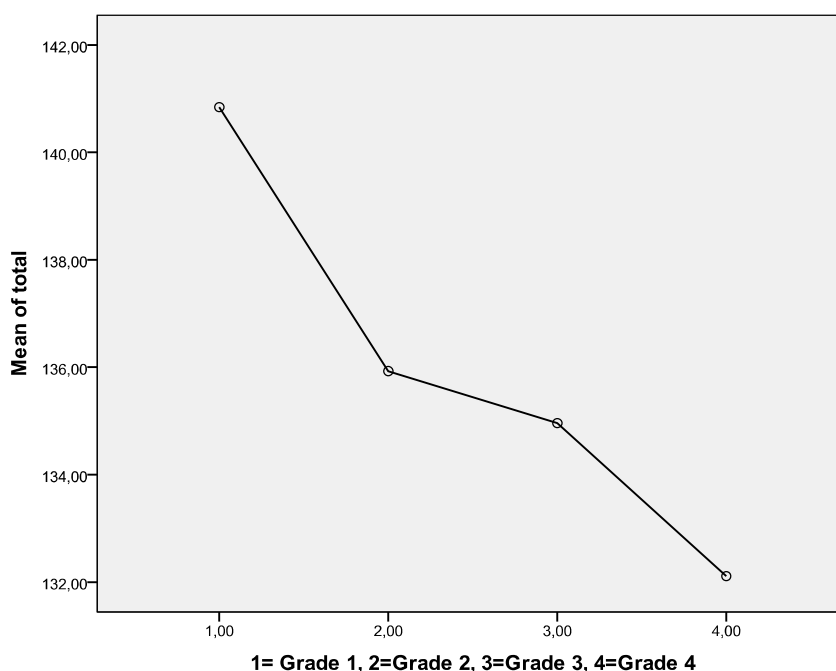


Figure 2. Means Plot for Attitude Scores Regarding Grade Levels

Results Regarding the Impact of Learning Styles on Attitudes

Table 3 summarizes the descriptive statistics for total attitude scores, mean scores, standard deviations, and the number of pre-service teachers in each learning style. Specifically, the results revealed that pre-service teachers with converging learning style had the highest attitude scores (Mean=138.60, SD=21.76), whereas pre-service teachers with diverging learning style had the lowest attitude scores (Mean=129.74, SD=24.89). In addition, the attitude scores of the pre-service teachers with accommodating learning style (Mean=134.96, SD=25.13) was very similar to the attitude scores of pre-service teachers with assimilating learning style (Mean=134.50, SD=24.95).

Table 3.
Descriptive information about learning styles and attitudes

	N	Mean	Std. Dev.	Std. Error	Min	Max
1. Divergers	123	129.74	24.89	2.24	46	170
2. Accommodators	137	134.96	25.13	2.15	58	170
3. Convergers	661	138.60	21.76	.85	48	170
4. Assimilators	322	134.50	24.95	1.40	49	169
Total	1243	136.26	23.47	.67	46	170

One-way between-groups analysis of variance was conducted to explore the impact of learning styles on pre-service teachers' attitudes toward teaching profession. The results revealed that attitude scores significantly differed at the $p < .05$ level considering pre-service teachers' learning styles ($F(3, 1239) = 6.17, p = .000$) (see Table 4). Effect size was calculated with eta squared, by dividing the sum of squares for between groups to the total sum of squares. Eta squared was found as .015. So, according to Cohen's classification, despite reaching statistical significance, the actual differences in the attitude scores was small, having values less than .06.

Table 4.
ANOVA results for learning styles and attitudes

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10065.12	3	3355,04	6.17	.000
Within Groups	673869.95	1239	543,88		
Total	683935,07	1242			

Multiple comparisons were made among different learning styles. The results indicated that, specifically, there were significant differences between convergers and divergers (Mean Difference=8.86, $p = .001$) as well as between convergers and assimilators (Mean Difference=4.09, $p = .049$) regarding their attitudes toward teaching. These differences can be visually inspected at Figure 3.

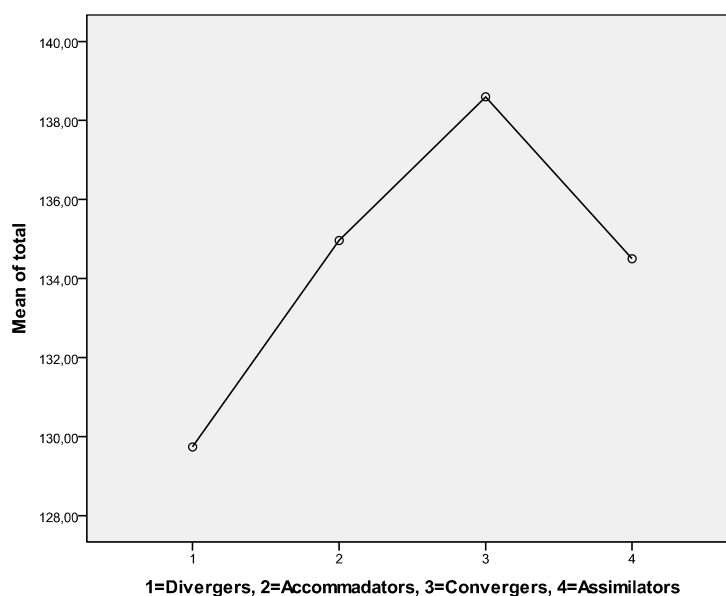


Figure 3. Means Plot for Attitude Scores Regarding Learning Styles

Discussion and Conclusion

In this study, pre-service teacher' learning styles and attitudes toward teaching profession were examined. Regarding the learning styles, the results revealed that pre-service teachers mostly preferred converging learning style, followed by assimilating, accommodating and diverging learning styles. This implies that these teacher candidates give importance to both theoretical information and practical experience. They like to deal with real world applications and hands on activities. They are good at solving problems, making decisions, and finding practical solutions. From teaching aspect, this may imply that these teacher candidates will be successful at putting their pedagogical knowledge into real practice and finding applicable solutions to their students' educational problems.

Knowing pre-service teachers' particular learning styles can be useful for teacher educators to plan their classes and select appropriate teaching methods to structure their learning environments according to the features of the preferred learning style. For instance, according to Kolb (1984), convergers do well on standard tests because they can organize their knowledge and converge to one given answer. So, they are generally successful at examinations which are constructed using multiple choices and true/false type questions. In addition, small group activities, real world problems, and peer feedback are the suitable techniques for enhancing converger students' learning (Şengül, Katrancı & Bozkuş, 2013).

Regarding the attitudes, the results indicated that pre-service teachers have favorable attitude towards their future profession, they give value to teaching and believe that they can be successful teachers. However, most of them regard teachers' working conditions as not promising. In addition, most of them indicate that they would not prefer teaching again if they would choose a profession. So, the results suggest that pre-service teachers have the proper attitudes, beliefs and sincerity toward teaching. Yet, there is need for improvement in Turkish school conditions. For instance, changes can be done to ensure that the physical environment of classrooms supports teaching and learning, teachers have access to appropriate instructional materials and technology, and they have suitable space to work productively.

Regarding the demographic variables, the results showed that there was a strong association between pre-service teachers' learning styles and their gender, teaching program, grade level, and GPA. However, the effect sizes of these relationships were all small, having no practical significance. In addition, the results indicated that pre-service teachers' attitudes toward teaching profession differed significantly considering their gender, teaching program, grade level, GPA, and the type of high school graduated. However, the actual differences in the attitude scores were all small, having no practical significance. At this point, the reason of reaching statistical significance, but not practical significance, might be due to the large number of pre-service teachers that participated in this study.

Finally, regarding the relationship between learning styles and attitudes toward teaching profession, the results indicated that there was a significant relationship between the two concepts. Attitude scores significantly differed considering pre-service teachers' learning styles. In particular, converger pre-service teachers had the highest attitude scores, whereas diverger pre-service teachers had the lowest attitude scores. This may be due to the high frequency of the pre-service that preferred converging learning style.

References

- Açıışlı, S. & Kolomoç, A. (2012). Sınıf öğretmeni adaylarının öğretmenlik mesleğine yönelik tutumlarının incelenmesi. *Eğitim ve Öğretim Araştırmaları Dergisi*, 1(2), 266-271.
- Aksoy, M.E. (2010). Öğretmen adaylarının öğretmenlik mesleğine ilişkin tutumları. *Gaziosmanpaşa Üniversitesi Sosyal Bilimler Araştırmaları Dergisi*, 5(2), 197-212.
- Baykara-Pehlivan, K. (2008). Sınıf öğretmeni adaylarının sosyo-kültürel özellikleri ve öğretmenlik mesleğine yönelik tutumları üzerine bir çalışma. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 4 (2), 151-168.
- Bektaş, F. & Nalçacı, A. (2012). The relationship between personal values and attitude towards teaching profession. *Educational Sciences: Theory & Practice*, 12(2), 1244-1248.

- Bozkırlı, K. Ç. & Er, O. (2011). The examination of Turkish / Turkish language and Literature teacher candidates' attitudes toward teacher profession according to various variables (Kafkas University sample). *International Periodical For The Languages, Literature and History of Turkish or Turkic*, 6(4), 457-466.
- Bulut, İ. (2009). Öğretmen adaylarının öğretmenlik mesleğine ilişkin tutumlarının değerlendirilmesi (Dicle ve Fırat Üniversitesi Örneği). *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi*, 14, 13-24.
- Çiğdem, G.ve Memiş, A. (2011). Sınıf Öğretmenliği Adaylarının Öğrenme Stilleri Ve Öğretmenlik Mesleğine Yönelik Tutumlarının Çeşitli Değişkenler Açısından İncelenmesi, Çukurova Üniversitesi Eğitim Fakültesi Dergisi, 3(40), 57-78.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Denizoglu, P. (2008). *The assessment of the relation between self-efficacy Belief levels, learning styles of science teacher candidates towards science teaching and their attitudes towards science teaching*. Unpublished master thesis. Institute of Social Sciences of Çukurova University, Adana.
- Durmuşoğlu, M.C., Yanık, C. & Akkoyunlu, B. (2009). Türk ve Azeri öğretmen adaylarının öğretmenlik mesleğine yönelik tutumları. *Hacettepe University Journal of Education*, 36, 76-86.
- Gencil, I. E. (2006). *Öğrenme stilleri, deneysel öğrenme kuramına dayalı eğitim, tutum ve sosyal bilgiler program hedeflerine erişimi düzeyi*. Unpublished doctoral dissertation. Dokuz Eylül University. Izmir, Turkey.
- Hacıömeroğlu, G. & Taşkın Ç. Ş. (2010). Fen bilgisi öğretmenliği ve ortaöğretim fen ve matematik alanları (OFMA) eğitimi bölümü öğretmen adaylarının öğretmenlik mesleğine ilişkin tutumları. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, 11(1), 77-90.
- Kağıtçıbaşı, Ç. (1999). *Yeni insan ve insanlar*. İstanbul: Evrim Publishing.
- Kahyaoğlu, M. (2011). The correlation between learning styles of prospective teachers and self-sufficiencies in teaching environment. *Journal of Educational Sciences Research*, 1(2), 67-82.
- Kahyaoğlu, M., Tan, Ç. & Kaya, M. F. (2013). İlköğretim öğretmen adaylarının öğrenme stilleri ve öğretmenlik mesleğine yönelik tutumları. *Mustafa Kemal Üniversitesi Sosyal Bilimler Dergisi*, 10 (21), 225-236.
- Karademir, E., & Tezer, Ö. (2010). The analysis of learning styles of prospective classroom teachers according to demographic variables. *Pamukkale University Journal of Education*, 28, 129-145.
- Karakış, Ö. (2012). Dominant learning styles of preparatory class students. *Procedia - Social and Behavioral Sciences*, 55, 1079-1088
- Kayan Fadlelmula, F. (2013). Attitudes of pre-service teachers towards teaching profession. *Turkish Journal of Education*, 2(4), 55-63.
- Kolb D.A. (1984). *Experiential learning experience as a source of learning and development*. New Jersey: Prentice Hall.
- Kolb, D. A. (1999). *The Kolb learning style inventory*. Hay Resources Direct.
- Ozan, C. & Bektaş, F. (2011). Eğitim fakültesi öğrencilerinin öğretmenlik mesleğine ilişkin motivasyon düzeyleri. *Türkiye Sosyal Araştırmalar Dergisi*, 1, 1-20.
- Özdemir, N., & Kesten, A. (2012). The learning styles of prospective social studies teachers' and the relationship between demographic characteristics. *Atatürk University Journal of Institute of Social Sciences*, 16(1), 361-377.

- Recepođlu, E. (2013). Analyzing the relationship between prospective teachers' life satisfaction and attitudes concerning teaching profession. *Hacettepe University Journal of Education, Special Issue (1)*, 311-326.
- Şengül, S., Katrancı, Y. & Bozkuş, F. (2013). Learning Styles of Prospective Teachers: Kocaeli University Case. *Journal of Educational and Instructional Studies in the World*, 3(2), 1-12.
- Üstüner, M. (2006). Öğretmenlik mesleğine yönelik tutum ölçeğinin geçerlik ve güvenirlik çalışması. *Educational Administration: Theory and Practice*, 12 (45), 109-127.
- Üstüner, M., Demirtaş, H. & Cömert, M. (2009). The attitudes of prospective teachers towards the profession of teaching: The case of Inonu University, Faculty of Education. *Education and Science*, 151, 140-155.
- Weinstein, C.E., & Mayer, R.E. (1986). *The teaching of learning strategies*. Handbook of Research on Teaching (Ed. M. Wittrock). New York: Macmillan.