Investigating the Prospective Teachers' Beliefs About Learning

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Abstract
The purpose of this research is to examine the learning-related beliefs of prospective teachers who continue their education at university. Within this overall purpose of the study the following questions were tried to be answered: 1) what level is the prospective teachers' beliefs about traditional and constructivist (cognitive, social and radical) learning? 2) Do the traditional and constructivist beliefs of prospective teachers differentiate significantly according to their gender, class and branches? This study was conducted in survey model with 293 female and 174 male, a total of 467 prospective teachers at Dicle University in the academic year of 2014-2015. As data collection tool "Belief Scale towards Learning" developed by Bay et al. (2012) was used. As the results of the study, it was found that the prospective teachers had adopted more constructivist beliefs than traditional beliefs; there is no statistically significant difference between the beliefs of the prospective teachers about learning according to their gender; there is a significant difference according to their branch; it has been determined a significant difference between the beliefs about traditional, constructivist, radical and social constructivist learning according to the class variable. However, there was no significant difference between the prospective teachers' cognitive learning beliefs according to class variables.
Keywords: Beliefs, prospective teachers, learning

1. Introduction

In the training process, there are many affective factors that are thought to influence human behavior. One of the most important of these is beliefs about learning. The beliefs about learning include the thoughts of teachers about how the learning takes place. Teachers' beliefs about learning are seen to be important in order to make the students gain desired behaviors. In addition, research findings have been put forward that there is a relationship between beliefs and practices, that is, beliefs about learning affect classroom activities and practices (Luft and Roehrig, 2007: 40). The effectiveness of instructional programs is dependent on teachers' beliefs about learning and teaching (Van Dariel, Bulte and Verloop, 2007: 156). Research has also shown that teachers are guided by their beliefs about their learning and teaching (Chan and Elliott, 2004: 817; Chan, 2004). Beliefs affect not only the learning process of prospective teachers, but also the professional development of their teaching career (Duru, 2014: 17). In addition, one of the factors that increase the importance of learning beliefs is that these beliefs affect teachers' behaviors, decisions, educational strategies and practices in the learning process (Kagan, 1992: 66; Nespor, 1987: 324; Waters-Adams, 2006: 919; 3-4; Hashweh, 1996: 61-62).

Research on learning beliefs has shown that these beliefs are usually examined in two major categories, traditional and constructivist learning beliefs (Chan, 2004; Chan, Tan and Khoo, 2007; Eren, 2009; Bay, et al, 2012 ; Woolley, Benjamin and Woolley, 2004; Duru, 2014; Bay et al., 2014, Kinay and Bağçeci, 2017).

Traditional learning is an approach which suggests that behavior develops by establishing a link between stimuli and behavior and that behavior changes through reinforcement (Özden, 2011: 21, Bacanlı, 2012: 29: Erden and Akman, 2009: 128). In the traditional understanding that knowledge is an unchanging and objective characteristic, information is independent from the individual (Yurdakul, 2010: 39), a phenomenon that exists outside of the learners (Özden, 2011: 6, Savaş, 2009: 412). In the traditional approach, education is teacher-centered. In the teacher-student-knowledge triangle, the teacher conveys the knowledge and the student takes the knowledge. In this sense, this approach does not give the student an active role in the formation of knowledge (Özden, 2011: 54). According to this approach, the teacher -as the source of information- is in the focus of teaching activities (Ocak, Koçyiğit and Özermen, 2010: 47). In this case teacher is the source of knowledge and the student is the passive learner in the learning process (Chan and Elliott, 2004: 819, Bramald, Hardman and Leat, 1995: 25, Tezci and Dikici, 2003: 255). The teacher in the role of information source is in this role challenging and restrictive and sets the boundaries of the knowledge that the learner needs to learn on a particular topic and assumes the primary responsibility for transferring it to the student (Tezci and Dikici, 2003: 255).

Another approach categorized in research on learning beliefs is the constructivist approach. Constructivism, can be defined as constitution of knowledge by the student (Özden, 2011: 55), and people's building their knowledge and the way of presenting knowledge by basing on their own experiences and beliefs (Akınoğlu, 2009: 150). The basic philosophy of the constructivist approach is that people construct knowledge as the result

of individuals' linking new ideas or events to old knowledge (Erdamar-Koç, 2014: 417), and that the truth is constructed as the result of observation, reflection, and mental effort by the individual. In other words, learning is based on the subjective reality that constitutes the individual's conceptual framework (Savaş, 2009: 413). In this case, according to the constructivist approach, learners have an active role in the teaching-learning process (Demirel, 2015: 223). One of the main assumptions of the constructivist approach is that knowledge is not real but subjective. In other words, information that is accepted correctly in a certain case can be considered wrong in another case. The correctness of the information varies according to the person, the situation and the culture. According to this approach, the individual discovers the complex information individually and makes it his own knowledge (Erden and Akman, 2009: 167).

Constructivist approach to learning is a highly accepted approach among educators in terms of providing a framework to understand learning and creating an effective teaching model (Haney, Czerniak and Lumpe, 2003: 366).

Constructivist learning beliefs can be categorized in three sub-categories as cognitive constructivist learning belief, social constructivist learning belief, and radical constructivist learning belief (Bay, et al., 2012: 1012).

Cognitive constructivists use Piaget's theory to explain how information is constructed. Piaget's concepts of assimilation and accommodation are important in explaining constructivist learning (Yurdakul, 2010: 43). According to this approach, the individual tries to assimilate the new situation that he/she has encountered with the help of old knowledge and experience (Özden, 2011: 59). In this process, the individual immediately places some of the new information he or she has learned into his mind, while others are displaced by pre-existing schemes in the mind (with the frame in which newly acquired information is placed) (Yapıcı, 2015: 571, Şengül, 2006: 83). When he realizes that old knowledge is not enough, he adapts to the new situation by creating a new concept in his mind. In this case, a new concept corresponding to the new situation in the mind of the individual has been formed. In this way, the balance is restored when a new situation is encountered (Özden, 2011: 59).

Social constructivists use views of Vygotsky's who emphasizes the fact that culture and language have an important influence on learning. Vygotsky suggests that social interaction and language have an important place in learning and that learners do not have a self-fulfilling process as Piaget suggests (Özden, 2011: 59). According to Vygotsky, the individual shapes the ways of thinking and interpreting the environment through social experiences. In this case, the individual cognition of the individual appears in the social environment (Yurdakul, 2010: 44).

While radical constructivism does not deny the importance of social interaction, it emphasizes that the understanding cannot be conveyed in a social interaction and that everyone has to create their own understanding with personal effort and skill. Radical constructivism advocates that a person will never reach an absolute truth, and that learning and development will last forever (Şengül, 2006: 88). Radical constructivism does not deny the existence of the reality of objects existing outside us, however, it only claims that everything that human beings can know of this external reality is a construction. We can understand our reality only in the form in which it has been constructed by ourselves (Terhart, 2003: 27).

In parallel with the differentiation of the constructivist approach in the form of cognitive, social and radical constructivism in the literature, in addition to the two-headed classification of traditional and constructivist learning beliefs, constructivist learning beliefs in itself constitute cognitive constructivist learning beliefs, social constructivist learning beliefs and radical constructivist learning beliefs (Bay, et al., 2014: 58).

In this study too, learning beliefs are examined in two main categories as traditional and constructivist beliefs. Constructivist beliefs are also categorized as cognitive constructivist belief, social constructivist belief, and radical constructivist belief.

1.1. The Aim of the Research

The aim of this research is to examine the beliefs of prospective teachers about learning. In response to this general objective, the following questions were tried to be answered in the research.

1. At what level are the beliefs of prospective teachers about traditional and constructivist (cognitive, social, radical) learning?

2. Does the level of beliefs for traditional and constructivist approach differ significantly according to the prospective teachers' gender, branch and class?

2. Method

2.1. Model of the Research

This study was conducted in the survey model. "Survey models are research approaches that aim to describe the past or present situation as it exists" (Karasar, 2009: 77). In this study, survey model was used because prospective teachers' beliefs about learning were tried to be described.

2.2. Study Group

This study was conducted on a total of 467 prospective teachers, 293 female (62.7%) and 174 male (37.3%) students studying at Dicle University in the academic year of 2014-2015. The distribution of prospective teachers participating in the research according to some features is presented in Table 1.

Table 1. Some Characteristics of Prospective Teachers Participated in the Survey

		N	%
Branch	Turkish language	73	15.6
	History	21	4.5
	Physics	16	3.4
	Religion and ethics	34	7.3
	Mathematics	36	7.7
	Turkish literature	29	6.2
	Chemistry	21	4.5
	Biology	19	4.1
	Art	54	11.6
	Geography	19	4.1
	English language	57	12.2
	Science	45	9.6
	Pre-school	43	9.2
Class	2. Grade	132	28.3
	3. Grade	144	30.8
	4. Grade	121	25.9
	5. Grade	70	15.0
Total		467	100.0

2.3. Data Collection Tool

In this study, "Belief Scale Towards Learning" developed by Bay, et al. (2012) was used. The Scale is a 5-Likert scale consisting of 34 items and 4 dimensions. The first dimension consists of 11 items "Social Constructivist"; the second dimension is "Traditional", which consists of 9 items; the third dimension is the "Cognitive Constructivist" consisting of 6 items and the fourth dimension is the "Radical Constructivist" dimension that consists of 8 items. For the dimensions of the scale, the Cronbach Alpha reliability coefficient was between .73 and .85, and the reliability coefficients obtained by the test division method were between .66 and .84 (Bay, et al., 2012).

In this study, the scale's Cronbach Alpha internal consistency coefficients were .62 for the "Cognitive Constructivist" dimension, .83 for the "Social Constructivist" dimension, .81 for the "Radical Constructivist" dimension, .81 for the "Traditional" dimension, and .73 for the "Constructivism" dimension.

2.4. Analysis of Data

Data obtained from the study were analyzed using the SPSS 20.0 package program. Arithmetic mean and standard deviation values were calculated to determine the level of beliefs of prospective teachers about traditional and constructive learning and cognitive, social and radical dimensions of constructivism. Arithmetic means were interpreted taking into account the intervals and levels of the data as shown in Table 2.

Table 2. Intervals and Levels Used to Interpret Means of Points

Intervals	Levels
1,00 – 1,80	Very low (I definitely do not agree)
1,81 – 2,60	Low (I do not agree)
2,61 – 3,40	Medium (Partially agree)
3,41 – 4,20	High (I agree)
4,21 – 5,00	Too high (Totally agree)

The t-test was used to examine whether the prospective teachers' beliefs about traditional and constructive learning and cognitive, social and radical dimensions of constructivism differ according to gender, One Way ANOVA was used to examine branch and class variables. In the comparisons, significance was tested at 0.05 level. The impact factor was calculated if there was a significant difference in the statistical analyzes. According to Chone (1988), the eta squared value between .01 and .06 is small, between .06 and .14 is moderate, and .14 and above it is interpreted as high effect (cited in Pallant, 2005, Akbulut, 2010).

3. Findings

The research findings were presented in order according to the research questions.

The arithmetic mean and standard deviation values of the prospective teachers' beliefs about traditional and constructive learning and cognitive, social and radical dimensions of constructivism are presented in Table 3.

Table 3. Arithmetic Mean and Standard Deviation Values of Prospective Teachers' Beliefs about Learning

	n	M	sd	Level
Traditional	467	3,52	0,72	High
Constructivist	467	3,85	0,32	High
Radical constructivism	467	2,95	0,59	Medium
Cognitive constructivism	467	4,10	0,43	High
Social constructivism	467	4,36	0,50	Too High

When the findings in Table 3 are examined, it is seen that teachers have adopted a high level of constructivist approach and a high level of traditional approach. However, considering the arithmetic means, it can be claimed that the prospective teachers adopted the constructivist approach more than the traditional approach. It is also seen that the prospective teachers' beliefs for social constructivist approach are too high, belief levels for cognitive constructivist approach are high and beliefs about radical constructivist approach are moderate. According to this, it can be said that the prospective teachers have adopted the social constructivist approach more than the radical and cognitive constructivist approach.

Findings related to whether the beliefs of prospective teachers differ according to their genders are presented in Table 4.

Table 4. Results of independent sample t-test of prospective teachers' beliefs about learning according to gender variable

	Gender	n	M	sd	df	t	p
Traditional	Female	293	3,56	0,68	465	1,773	0,077
	Male	174	3,44	0,77			
Constructivism	Female	293	3,86	0,32	465	0,674	0,501
	Male	174	3,84	0,31			
Radical constructivism	Female	293	2,98	0,57	465	1,070	0,285
	Male	174	3,92	0,62			
Cognitive constructivism	Female	293	4,11	0,41	465	0,551	0,582
	Male	174	4,09	0,45			
Social constructivism	Female	293	4,36	0,49	465	0,205	0,838
	Male	174	4,37	0,53			

When Table 4 is examined, there is no statistically significant difference among the beliefs of the prospective teachers about learning according to gender variable. According to this, it can be claimed that gender does not have any influence on the prospective teachers' beliefs about learning.

Findings regarding whether there is a significant difference among prospective teachers' beliefs about traditional learning according to their branches are presented in Table 5.

Table 5. Findings of Prospective Teachers' Traditional Learning Beliefs according to Branch

Branch	N	M	sd	F	p	Imp. Fact.	LSD Test
1. Turkish language	73	3,67	0,72	3,395	0,000*	0,082	1-5,1-11, 2-4, 2-12, 3-5, 4-5, 4-11, 5-6, 5-7, 5-9, 5-10, 5-12, 5-13, 9-11, 11-12, 11-13
2. History	21	3,40	0,70				
3. Physics	16	3,58	0,55				
4. Religion and ethics	34	3,78	0,49				
5. Mathematics	36	3,07	0,64				
6. Turkish literature	29	3,47	0,74				
7. Chemistry	21	3,55	0,65				
8. Biology	19	3,42	0,74				
9. Art	54	3,54	0,87				
10. Geography	19	3,59	0,57				
11. English language	57	3,23	0,78				
12. Science	45	3,77	0,47				
13. Pre-school	43	3,56	0,72				

(* P< 0,05)

When Table 5 is examined, it is seen that there is a significant difference among the traditional learning beliefs of the prospective teachers according to their branches. When the impact factor is examined, it is determined that the significant difference is moderate. Taking into account the arithmetic mean, it has been

determined that the traditional learning belief has the highest mean for prospective teachers in the branch of Religious and Ethics and the lowest mean is for prospective teachers in Mathematics.

Findings regarding whether there is a significant difference among the beliefs of prospective teachers about their constructivist learning according to their branches are presented in Table 6.

Table 6. Findings related to Constructivist Learning Beliefs of Prospective Teacher according to Branch

Branch	N	M	sd	F	p	Impact factor	LSD Test
1. Turkish language	73	3,95	0,28	2,768	0,001*	0,068	1-4, 1-8, 1-12, 1-13, 2-12, 3-12, 4-9, 5-12, 6-12, 9-12, 10-12, 11-12
2. History	21	3,88	0,35				
3. Physics	16	3,94	0,37				
4. Religion and ethics	34	3,76	0,22				
5. Mathematics	36	3,90	0,26				
6. Turkish literature	29	3,84	0,24				
7. Chemistry	21	3,82	0,32				
8. Biology	19	3,77	0,21				
9. Art	54	3,54	0,39				
10. Geography	19	3,93	0,24				
11. English language	57	3,93	0,23				
12. Science	45	3,67	0,40				
13. Pre-school	43	3,78	0,38				

(* P< 0,05)

When Table 6 is examined, it is seen that there is a significant difference among prospective teachers' constructivist learning beliefs according to their branches. When the impact factor is examined, it is determined that the significant difference is moderate. Taking into account the arithmetic mean, constructivist learning belief is found to be highest in the prospective teachers in Turkish language and lowest in the Art.

Findings regarding whether there is a significant difference among the beliefs of prospective teachers about their radical constructivist learning according to their branches are presented in Table 7.

Table 7. Findings of Prospective Teachers' Beliefs about Radical Constructivist Learning

Branch	N	M	sd	F	p	Impact factor	LSD Test
1. Turkish language	73	2,94	0,54	4,348	0,000*	0,103	1-2, 1-6, 1-8, 1-12, 1-13, 2-4, 2-5, 2-6, 2-7, 2-8, 3-4, 3-5, 3-6, 3-7, 3-8, 4-9, 4-12, 4-13, 5-9, 5-12, 5-13, 6-9, 6-12, 6-13. 7-9, 7-12, 7-13, 8-9, 8-10, 8-11, 8-12, 8-13, 9-11, 11-12, 11-13
2. History	21	3,25	0,63				
3. Physics	16	3,16	0,83				
4. Religion and ethics	34	2,76	0,38				
5. Mathematics	36	2,79	0,49				
6. Turkish literature	29	2,67	0,57				
7. Chemistry	21	2,70	0,46				
8. Biology	19	2,58	0,37				
9. Art	54	3,13	0,77				
10. Geography	19	2,97	0,69				
11. English language	57	2,88	0,50				
12. Science	45	3,15	0,49				
13. Pre-school	43	3,18	0,56				

(* P< 0,05)

When Table 7 is examined, it is seen that there is a significant difference among the prospective teachers' radical constructivist learning beliefs according to their branches. When the impact factor is examined, it is determined that the significant difference is moderate. Taking into account the arithmetic means, the radical constructivist learning belief is found to be the highest in the prospective teachers in History and the lowest mean in Biology.

Findings of whether there is a significant difference among the beliefs of prospective teachers about their cognitive constructivist learning according to their branches are presented in Table 8.

Table 8. Findings of Prospective Teachers' Cognitive Constructivist Learning Beliefs according to Branch

Branch	N	M	sd	F	p	Impact factor	LSD Test
1. Turkish language	73	4,22	0,54				
2. History	21	4,02	0,63				
3. Physics	16	4,32	0,83				
4. Religion and ethics	34	4,03	0,38				1-4, 1-9, 1-11, 1-12, 1-13, 2-3, 2-5, 3-4, 3-9, 3-11, 3-12, 3-13, 4-5, 5-9, 5-11, 5-12, 5-13, 6-9, 6-12, 8-12
5. Mathematics	36	4,26	0,49				
6. Turkish literature	29	4,23	0,57				
7. Chemistry	21	4,08	0,46	2,951	0,001*	0,072	
8. Biology	19	4,18	0,37				
9. Art	54	4,04	0,77				
10. Geography	19	4,06	0,69				
11. English language	57	4,05	0,50				
12. Science	45	3,89	0,49				
13. Pre-school	43	4,04	0,56				

(* P< 0,05)

When Table 8 is examined, it is seen that there is a significant difference among the prospective teachers' beliefs about the cognitive constructivist learning according to their branches. When the impact factor is examined, it is determined that the difference is moderate. When arithmetic means is taken into consideration, it is determined that cognitive constructivist learning belief is highest in the prospective teachers in Physics and lowest in Science.

Findings regarding whether there is a significant difference among the beliefs of prospective teachers about their social constructivist learning according to their branches are presented in Table 9.

Table 9. Findings related to the Social Constructivist Learning Belief of Prospective Teachers according to Branch

Branch	N	M	sd	F	p	Imp. Fact.	LSD Test
1. Turkish language	73	4,52	0,38				
2. History	21	4,26	0,63				
3. Physics	16	4,33	0,68				
4. Religion and ethics	34	4,34	0,41				1-2, 1-12, 1-13, 2-10, 2-12, 3-12, 4-12, 4-13, 5-12, 5-13, 6-12, 6-13, 7-12, 7-13, 9-12, 9-13, 10-12, 10-13, 11-12, 11-13,
5. Mathematics	36	4,51	0,41				
6. Turkish literature	29	4,47	0,41				
7. Chemistry	21	4,48	0,50	6,488	0,000*	0,146	
8. Biology	19	4,41	0,31				
9. Art	54	4,38	0,49				
10. Geography	19	4,56	0,50				
11. English language	57	4,49	0,38				
12. Science	45	3,93	0,57				
13. Pre-school	43	4,08	0,55				

(* P< 0,05)

When Table 9 is examined, it is seen that there is a significant difference among the prospective teachers' social constructivist learning beliefs according to their branches. When the impact factor is examined, it is determined that the significant difference is high. When the arithmetic means are taken into consideration, it is determined that the social constructivist learning belief is the highest in the prospective teachers in Turkish language and the lowest in Science.

Findings of whether there is a significant difference among the beliefs of prospective teachers about traditional and constructivist learning and cognitive, social and radical dimensions of constructivism according to class variables are presented in Table 10.

Table 10. Findings of Prospective Teachers' Beliefs about Learning according to Class Variable

	Class	N	M	sd	F	p	Impact factor	LSD Test
Traditional	2. Grade	132	3,71	0,62	5,871	0,001*	0,038	2-3, 2-4, 2-5
	3. Grade	144	3,48	0,74				
	4. Grade	121	3,46	0,74				
	5. Grade	70	3,31	0,72				
Constructivist	2. Grade	132	3,79	0,36	2,893	0,035*	0,018	2-4
	3. Grade	144	3,84	0,29				
	4. Grade	121	3,90	0,33				
	5. Grade	70	3,88	0,26				
Radical constructivism	2. Grade	132	3,09	0,53	6,760	0,000*	0,042	2-3, 2-5, 3-4,
	3. Grade	144	2,80	0,57				
	4. Grade	121	3,02	0,64				
	5. Grade	70	2,86	0,59				
Cognitive constructivism	2. Grade	132	4,02	0,50	2,042	0,107	-	-
	3. Grade	144	4,11	0,39				
	4. Grade	121	4,13	0,41				
	5. Grade	70	4,14	0,38				
Social constructivism	2. Grade	132	4,17	0,55	8,985	0,000*	0,055	2-3, 2-4, 2-5
	3. Grade	144	4,42	0,46				
	4. Grade	121	4,43	0,44				
	5. Grade	70	4,47	0,51				

Examining Table 10 shows that related to prospective teachers' learning beliefs; a significant relationship is found among traditional, constructivist, radical and social constructivist learning beliefs related to class, however, there was no significant difference among the prospective teachers' cognitive learning beliefs according to class variable. When the impact factor is taken into consideration, it is determined that the significant difference is low. Looking at the arithmetic means, the belief in traditional learning seems to decrease as the class level increases. However, the constructivist learning beliefs and its sub-dimensions (except for the dimension of radical constructivist learning belief) were found to be the lowest level for students in the second grade. On the other hand, in the constructivist beliefs and its sub-dimensions (except for the dimension of radical constructivist learning belief) were found to be highest for the fourth and fifth grade students. Accordingly, it can be claimed that the class variable is an effective variable on the prospective teachers' beliefs about learning.

4. Conclusion, Discussion and Suggestions
In this study, the prospective teachers have found to be adapted constructivist approach more than the traditional approach. Moreover, when the findings of the first question of the research are examined, it is determined that the beliefs of the prospective teachers towards the social constructivist approach were too high (M= 4.36/completely agree). According to this, it can be said that the prospective teachers have more beliefs about constructivist learning than traditional belief, and among the dimensions of constructivist they have mostly adopted beliefs about social constructivist approach. It can be claimed that the social constructivist approach has been more adopted by prospective teachers as it emphasizes the activities for practical use and social interaction in learning. In addition, the group studies that the instructors have applied in some courses (teaching practices, social service applications, instructional technology and material design course, etc.) in the educational process may have contributed to the prospective teachers' attainment of social constructivist learning beliefs. Another finding that draws attention to the first question of the research is that the prospective teachers have adopted the high level of learning beliefs towards the traditional approach (M=3,52/I agree). According to this, although the prospective teachers adopt the constructivist approach, they still have a high level of belief in traditional learning. The reason for this may be that prospective teachers have grown up with constructivist understanding in the pre-university learning process, and later they have participated in more traditional approaches in the process during undergraduate education at the university. Another reason for this may be that although the contents of the curriculum are prepared according to the constructivist approach, the instructors may not give up their traditional understanding of learning and are still using applications in accordance with traditional understanding. The individual experiences on the teachers' beliefs and the experiences gained during the student years are effective (Yalaza-Atay, 2003: 43). However, teaching-learning practices are influential in shaping students' beliefs about learning (Deryakulu, 2006: 281). In addition, the study conducted by Bay, et al. (2014), supports the finding that the teachers' beliefs about constructivist approach are higher than the traditional approach and that the teachers' beliefs about social constructivism are higher than the beliefs about cognitive and radical constructivism. Chan, Tan and Khoo (2007: 187) found that prospective teachers' beliefs about constructivist approach are higher than

traditional approach.

When the findings related to the second question of the research are examined, there is no statistically significant difference among the beliefs of the prospective teachers regarding the gender variable. According to this, it can be claimed that gender does not have a significant impact on prospective teachers' beliefs about learning. In the research conducted by Eren (2010) and Chan, Tan and Khoo (2007) on the prospective teachers, it was concluded that the gender variable does not have a significant effect on the constructivist and traditional learning beliefs of the prospective teachers.

Another finding of the second question of the research shows that there is a significant difference among the traditional learning beliefs of the prospective teachers according to their branches. Taking into account the arithmetic mean, it has been determined that the traditional learning belief is the highest for the prospective teachers in Religion and Ethics Education and the lowest for Mathematics. According to this, it can be claimed that the prospective teachers in Religion and Ethics have adopted the traditional learning beliefs more than the other branches. It can be argued that the contents of the Religion and Ethics undergraduate programs are mostly related to the traditional religious knowledge. In these undergraduate programs, which are based on traditional knowledge, the course is also more subject-oriented. It can be said that this understanding may have led to the fact that the prospective teachers in this branch may have developed more traditional learning beliefs.

Another finding of the second question of the research shows that there is a significant difference among the prospective teachers constructivist learning beliefs according to their branches. Taking into account the arithmetic means, constructivist learning belief was found to be highest for the prospective teachers in the branch of Turkish language and lowest for Art. According to this, it can be claimed that the prospective teachers in the Turkish language branch have more beliefs in constructivist learning than the other branches. In the social constructivist approach language is seen as an important element of learning. Since the Turkish language branch is also related to language teaching, it can be determined that the prospective teachers in this branch have a high level of beliefs in social constructivist learning (M=4,52). It can be concluded that these means of the prospective teachers' belief about social constructivist learning in Turkish language branch in general may increased their beliefs in constructivist learning (M=3,95). In the research conducted by Eren (2009, 2010) it was revealed that the branch is an effective variable in the beliefs of the prospective teachers about learning. In addition, it was determined in the study conducted by Bay, et al. (2014) on teachers that there is a significant difference between the classroom teachers' and branch teachers' beliefs about traditional learning.

Another finding related to the second question of the research is that there is a significant difference among the prospective teachers' beliefs about traditional and constructivist learning according to the class variable. Looking at the arithmetic means, it is seen that as the class level increases, the beliefs about traditional learning decreases and the constructivist learning belief generally increases. As the prospective teachers in undergraduate education move towards upper classes, they are expected to increase their knowledge and experience in the constructivist approach with the courses of educational sciences they have taken. Because many of the courses in the field of educational sciences contain information and activities related to the constructivist learning approach. It can be claimed that knowledge and activities may have contributed to the prospective teachers' beliefs about constructivist learning. Because the experience of teachers during university education affects their beliefs (Yalaza-Atay, 2003: 43). Moreover, it can be stated that the experiences of the prospective teachers directly affect their basic beliefs about their educational processes (Duru, 2014: 16). Eren (2009) also found that the class variable is a significant variable on constructivist learning beliefs in the study on the prospective teachers.

The following suggestions have been made in the light of the results obtained in the research;

1. It is suggested that studies should be conducted on variables that are not examined in this research (academic achievement, high school graduation, level of knowledge on constructivist approach, etc.).

2. The relationship between teachers' beliefs about learning and other educational beliefs (belief in participatory evaluation, belief in standard test, etc.) can be examined.

3. For prospective teachers to have constructivist beliefs, prospective teachers should experience more constructivist learning experiences during pre-service undergraduate education.

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Note:

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