International Electronic Journal of Elementary Education, 2014, 6(2), 357-370.

An Analysis of the Relationship between Prospective Teachers' Thinking Styles and their Attitudes to Teaching Profession According to Various Variables

Mehmet UYGUN*
Dumlupınar University, Turkey

Halil KUNT
Dumlupınar University, Turkey

Received: 3 October 2013 / Revised: 14 December 2013 / Accepted: 27 March 2014

Abstract

This study aimed to analyze the relationship between primary school prospective teachers' thinking styles and their attitudes to teaching profession. The study group for the research consisted of fourth-grade Primary School of Elementary Education, Social Sciences Education and Science Education students studying at Dumlupınar University Education Faculty in the fall term of 2013-2014 academic year. The scale was applied to 222 students. Survey model was used. In order to define the prospective teachers thinking styles, "Thinking Styles Inventory"' that was adapted into Turkish by Fer (2005) and "Teaching Profession Attitude Scale" that was developed by Çetin (2006) were used in this research. According to the results of this study, prospective teachers' attitude to teaching profession has been found to be positive and women's attitude to teaching profession is higher than men in all the dimensions. While the most preferred thinking styles are legislative, hierarchic and executive thinking styles, the least preferred thinking styles are oligarchic and conservative thinking styles. In addition, there is a significant relationship between prospective teachers and total attitude point of prospective teachers to teaching profession.

Keywords: Thinking Styles, Attitude to Teaching Profession, Prospective Teacher.

Introduction

Thinking is the disciplined process of the conceptualizing, applying, analyzing and evaluating knowledge gathered through observation, experience, intuition, reasoning and other ways (Özden, 2003). Thinking is a very complex and abstract skill. According to Saban (2005), it would be defined as "going beyond the available knowledge'' and

* Mehmet Uygun, Department of Elementary Education, Faculty of Education, Dumlupınar University, Kutahya, Turkey, Phone:+90 274 265 20 31 E-mail: muyguntr@gmail.com

"reaching new information by using available knowledge". Style is the way that individuals prefer while using their skills, doing something or thinking over something (Sternberg, 1997; Zhang and Sternberg, 2005). Thinking processes and preferences would vary according to individuals.

Sternberg (1997) advises a thinking style, based on mental self-government, which is related to how an individual prefers to think about a subject during the learning and after the learning. Thinking styles are approaches and leanings that are the results of mental processes related to various problems, events, phenomena and variables (Sünbül, 2004).Thinking styles are related to social environment and they change according to time and culture (Zabukovec and Kobal-Grum, 2004). This theory claims that thinking styles direct people's daily activities like governing a society. According to this, thinking cannot be defined as skill or intelligence but as the way of using skill or intelligence (Fer, 2005; Emir, 2013). Mental self-government speaks of 13 thinking styles under five categories. These categories are: Functions, Forms, Levels, Scopes, and Leanings. These categories and general features of thinking styles related to these categories can be defined as (Fer, 2005; Sternberg, 1997; Zhang and Sternberg, 2005; Sternberg, Grigorenko and Zhang, 2008):

I. Functions:

1. Legislative: Innovative, ideogenetic.

2. Executive: Coherent, regular, following the commands.

3. Judicial: Judging, evaluating, idea expressing.

II. Forms:

4. Monarchic: Deals best with one goal and they focus on it.

5. Hierarchic: Focuses on multiple goals at once and recognizes that all goals cannot be fulfilled equally. S/he can prioritize goals easily.

6. Oligarchic: Deals well with goals that are of equal weight, but s/he has difficulty in prioritizing goals of different weights.

7. Anarchic: Chooses randomly and abstains from the existing mindsets.

III. Levels:

8. Global: Interested in abstract ideas and general portrait.

9. Local: Interested in concrete ideas and details.

IV. Scopes:

10. Internal: Independent, self-sufficient, abstains from communication; likes to be by himself.

11. External: Likes to collaborate and work in groups; s/he is addicted.

V. Leanings:

12. Liberal: Innovator, anti-traditionalist, dreamy.

13. Conservative: Traditionalist, prefers the one that has been experienced, realistic.

According to mental self-government, individuals have many thinking styles rather than a unique thinking style (Sternberg, 1997). Styles may change in order to conform with different duties and events (Sümbül, 2004; Buluş, 2005). Because of the environmental factors, individuals' dominant thinking style may change and differentiate

in time. Thus, various styles may be classified as different; may not be classified as good or bad (Duru, 2004).

In thinking styles, one can show different attitudes towards different events and stimuli. People can learn many attitudes towards the things that can be attitude objects (near-distant) through their experiences, parents, friend environment, mass media, effect of other individuals and conditioning (Üstüner, 2006). Attitude is "a learned leaning of an individual towards apparent people, objects and situations that direct him to defined behaviors" (Demirel, 2005). According to İnceoğlu (2004), attitude is a mental, sensational and behavioral reaction inclination of an individual that he organizes by his knowledge, sense, experience and motive towards himself, an event, an object or a subject.

Knowing the ideas of prospective teachers about teaching is important for the organization of teaching activities. Prospective teachers' gaining attitude to teaching and their evaluating it as valuable are as much important as knowledge (Çetin, 2006). Knowledge, feeling and skills that can be gained in teacher education program is to make their behaviors more influential. Determining the attitudes of students that are educated in teacher education program will also give information about the necessary attitudes that these students should gain during education (Üstüner, 2006).

This study aims to show thinking styles of prospective teachers educated in Dumlupınar University, Primary School Education Program (Elementary Education, Social Sciences Education and Science Education) and the relationship between these thinking styles and prospective teachers' attitudes to teaching profession.

Method

Model of the Research

Because an existing situation is described, survey model (of quantitative research methods) has been used in this research (Gay, Mills and Airasian, 2006; Karasar, 2011). The survey model is a research approach that aims to define an existing or a past situation as itself (Kaptan, 1998).General survey models try to define an individual or an object in a sample or in the whole population within its own conditions in order to come up with a general judgment on the population (Karasar, 2011).

The Study Group

The study group for the research consisted of fourth- grade Primary School of Elementary Education, Social Sciences Education and Science Education students studying at Dumlupınar University Education Faculty in the fall term of 2013-2014 academic year. The Scale was applied to 222 students. All the students answered the whole scale sincerely. Table 1 includes their demographical information.

Table 1. *Demographical Information of Participants*

Variables	**Demographical Information**	***n***	***(%)***
Gender	Female	153	68.9
	Male	69	31.1
	Total	222	100
Department	Science Education	74	33.3
	Elementary Education	78	35.1
	Social Sciences Education	70	31.5
	Total	222	100

According to descriptive statistics, 68.9% of 222 participants are women and 31.1% are men 33% of the participants are the students of science education department,

35% are students of elementary education department and 31% of them are from students of social sciences education department.

Data Gathering Tool

In order to understand the thinking styles of prospective teachers, “Thinking Styles Inventory” adapted into Turkish by Fer (2005) and “Teaching Profession Attitude Scale” developed by Çetin (2006) were used in this research.

Thinking Styles Inventory (TSI). Thinking Styles Inventory, developed by Sternberg and Wagner (1992) and adapted into Turkish by Fer (2005), was used as the data gathering tool.

Turkish form that was adapted by Fer (2005) was prepared in order to test 13 thinking styles in 5 basic categories. It tests each of them by 8 articles. Seven-point Likert Scale item was used:

It is totally unsuitable for me (1), It is not very suitable for me (2), It is a little suitable for me (3), it is almost suitable for me (4), it is suitable for me (5), it is mostly suitable for me (6), it is totally suitable for me (7). There is not a total point in the item because a thinking style that is dominant in an individual, available in a sub-scale under a basic aspect is measured independent from other aspects. Possible point of a sub-scale is between 8 and 56. Constant points is used to group individuals according to thinking style under basic categories. Each individual is appointed to the thinking style that is a part of the sub-scale which is under basic thinking category that s/he got the highest point in it (Fer, 2005). If the point increases, (shown) thinking style under the sub-scale is accepted as high.

According to Pearson product-moment correlation coefficient that was carried out check the consistency between TSI’s Turkish and English Form, in all the articles (except 4. and 73) the significance level was found to be between .40 and .99 (Fer, 2005). According to Pearson product-moment correlation coefficient, the relationship between English and Turkish application of the scale to the same individual was: Legislative .78, Executive .95, Judicial .83, Monarchic .83, Hierarchic .94, Oligarchic .93, Anarchic .93, Global .95, Local .88, Internal.88, External .80, Liberal .92 and Conservative .54.

There are significant and positive ($p < .01$) values in all sub-scales. Average correlation coefficient of sub-scales is .79. According to factor analysis questioning (structural) validity of Turkish scale, there is a scale of 70 articles including %45 variance. While internal reliability alpha of (the whole) Turkish form of TSI that contains 104 articles is .90, alpha coefficient of the form of 70 articles is .89. Findings showed that the13 sub-scales had internal consistency reliabilities ranging from .37 to .88 (Fer, 2005). While reliability co-efficient of the scale is calculated as .94 for n: 222 according to total point in this study, they are calculated according to sub-scales as: Legislative .89, Executive .88, Judicial .89, Monarchic .70, Hierarchic .91, Oligarchic .76, Anarchical .75, Global .81, Local .82, Internal .87, External .91, Liberal .91 and Conservative .90. According to arithmetic mean; the point is: 1. Totally unsuitable (1-1,85), 2. Not very suitable (1,86-2,71), 3. A little suitable (2,72-3,57), 4. Almost suitable (3,58-4,43), 5. Suitable (4,43-5,28), 6. Mostly suitable (5,29-6,14), 7. Totally suitable (6,15-7,00).

Teaching Profession Attitude Scale (TPAS). Teaching Profession Attitude Scale developed by Çetin (2006) was used in this study. In the five-point Likert scale, there are 35 articles; 15 of them are positive and 20 of them are negative. The scale that consists of three aspects (love, value and coherence) gives different points for the total point and 3 sub-scales. Variance for each factor of the scale is for love (29.6%), for

value (12.2%) and coherence (9.4%). Total variance of the scale is (51.2%). Alpha reliability coefficient of the scale in total is .95. It is .95 for love, .81 for value and .76 for the coherence (Çetin, 2006). In this research, reliability coefficient of the scale in total is .94; for love .92, for value .88 and for the coherence .74. While positive sentences of the scale change from "I strongly agree" to "I strongly disagree" and from 5 to 1, there is a change from "I strongly agree" to "I strongly disagree" and from 1 to 5.If the point is close to 5, it shows that students agree premise and if it is close to 1,00 it shows their disagreement. If the point is 2,59 or lower, it shows negative attitude and if it is over than that, it shows positive attitude. Points for each options are so: I strongly agree (4,20-5.00), I agree (3.40-4.19), I agree moderately (2.60-3.39), I don't agree (1.80-2.59) and I strongly disagree (1.00-1.79).

Analysis of the Data

While evaluating the thinking styles of the prospective teachers and the result of the relationship between these styles and their attitude to teaching profession, T-Test; ANOVA and LSD Test (LSD Test has been carried out in order to find the reason of statistically significant difference after ANOVA) were used in addition to descriptive statistical methods (mean, standard deviation, frequency, percentage). Furthermore, the relationship between thinking styles of prospective teachers and their attitude to teaching profession were analyzed after the calculation of Pearson Correlation Coefficient. $p < 0.05$ has been accepted as significant difference.

Results

This part of the study firstly defined the prospective teachers' thinking styles and their attitude to teaching profession. Secondly, prospective teachers' thinking styles and their attitude to teaching profession were compared according to variables such as gender and the program they study. Table 2. includes data of prospective teachers' attitude to teaching profession.

Table 2. *Average of Prospective Teachers' Attitude to Teaching Profession Points and Standard Deviation Value*

Factors	***n***	***($\bar{x}$)***	***Sd***
Love	222	4.00	0.56
Value	222	4.33	0.52
Coherence	222	4.24	0.62
Teaching Profession Attitude (Total)	222	4.11	0.52

Prospective teachers' total attitude to teaching profession degree is ($\overline{X}$ = 4.11) is positive, their total attitude to teaching profession is the highest in the sub-dimension "value" ($\overline{X}$ = 4.33) and the lowest in the sub-dimension "love" ($\overline{X}$ = 4.00).Table 3 includes the data of the comparison of Prospective teachers' attitude to teaching profession according the "gender" variable

Table 3. *T-Test Results of the Prospective Teachers' Attitude to Teaching Profession According the Gender Variable*

Factors	**Gender**	***n***	***($\bar{x}$)***	***Sd***	***p***
Total	Male	69	3.96	0.57	0.004
	Female	153	4.17	0.49	
Love	Male	68	3.83	0.61	0.005
	Female	153	4.06	0.53	
Value	Male	69	4.18	0.59	0.004

Table 3 (Cont). *T-Test Results of the Prospective Teachers' Attitude to Teaching Profession According the Gender Variable*

Factors	Gender	*n*	($\bar{x}$)	*Sd*	*p*
	Female	153	4.40	0.47	
Coherence	Male	69	4.14	0.66	0.101
	Female	153	4.29	0.60	

According to Independent- Sample T-Test, male and female prospective teachers' attitudes to teaching profession points are very high while points of women are significantly higher than men. This finding would show that gender is an effective factor on prospective teachers' attitude to teaching profession. Table 4 includes the data of the comparison of prospective teachers' attitude to teaching profession according to department variable. This is shown by one-way analysis of variance (ANOVA).

Table 4. *Anova Results of the Prospective Teachers' Attitude to Teaching Profession According the Department Variable*

Department	Factors	*n*	($\bar{x}$)	*Sd*	*p*	*Difference*
Science Education (1)	Love	74	4.12	0.51	0.009*	1-3
	Value	74	4.43	0.51	0.022*	1-3
	Coherence	74	4.38	0.53	0.022*	1-3
	Total	74	4.23	0.46	0.007*	
Elementary Education (2)	Love	78	3.98	0.51		
	Value	78	4.33	0.46		
	Coherence	78	4.21	0.66		
	Total	78	4.10	0.46		
Social Sciences Education (3)	Love	70	3.87	0.58		
	Value	70	4.23	0.58		
	Coherence	70	4.14	0.66		
	Total	70	3.99	0.56		

(*) $p < 0.01$ (According to Social Sciences Education).

According to the results of analysis, prospective teachers' attitude to teaching profession points are the highest in science and the lowest in social sciences (department). Points of prospective teachers studying social sciences education are significantly lower than the ones' studying science education. This finding would show that department is an effective factor on prospective teachers' attitude to teaching profession. Table 5 includes the data of prospective teachers' thinking styles.

Table 5. *Prospective Teachers' Thinking Styles, Arithmetic Mean and Standard Deviation Value*

Factors	Sub-Dimensions	*n*	($\bar{x}$)	*Sd*
Functions:	Legislative	222	5.70	0.79
	Executive	222	5.22	0.94
	Judicial	222	5.17	0.93
Forms	Monarchic	222	4.58	0.88
	Hierarchic	222	5.44	0.94
	Oligarchic	222	3.99	1.00
	Anarchic	222	4.41	0.94
Levels	Global	222	4.49	0.99
	Local	222	4.32	1.04
Scopes	Internal	222	4.72	1.09

Table 5 (Cont). *Prospective Teachers' Thinking Styles, Arithmetic Mean and Standard Deviation Value*

Factors	Sub-Dimensions	*n*	($\bar{x}$)	*Sd*
	External	222	4.55	1.14
Leanings	Liberal	222	5.10	1.05
	Conservative	222	4.00	1.20

When we analyze Table 5, we see that the most preferred thinking style is Legislative ($\overline{X}$ = 5,70).Hierarchic ($\overline{X}$ = 5,44), Executive ($\overline{X}$ = 5,22), Judicial ($\overline{X}$ = 5,17), Liberal ($\overline{X}$ = 5,10) are the following ones consecutively. The lowest thinking style is Monarchic ($\overline{X}$ = 3.99) and conservative thinking style ($\overline{X}$ = 4.00) is higher than it. Table 6 contains the data of the comparison of thinking styles according to the gender variable.

Table 6. *T-Test Results of the Prospective Teachers' Thinking Styles According to Gender Variable*

Sub-Dimensions	Gender	*n*	($\bar{x}$)	*Sd*	*p*
Legislative	Male	69	5.78	0.77	,262
	Female	153	5.65	082	
Executive	Male	69	5.08	0.91	,122
	Female	153	5.29	0.95	
Judicial	Male	69	5.24	0.91	,415
	Female	153	5.13	0.95	
Monarchic	Male	69	4.57	0.97	,889
	Female	153	4.59	0.85	
Hierarchic	Male	69	5.25	0.96	,045*
	Female	153	5.52	0.92	
Oligarchic	Male	69	4.17	1.05	,066
	Female	153	3.90	0.95	
Anarchic	Male	69	4.58	0.94	,062
	Female	153	4.33	0.93	
Global	Male	69	4.55	1.02	,361
	Female	153	4.45	0.99	
Local	Male	69	4.42	1.08	,284
	Female	153	4.27	1.02	
Internal	Male	69	4.96	1.01	,024*
	Female	153	4.61	1.06	
External	Male	69	4.55	1.12	,989
	Female	153	4.56	1.15	
Liberal	Male	69	5.2	0.82	,305
	Female	153	5.08	1.13	
Conservative	Male	69	5.20	1.30	,047*
	Female	153	3.81	1.14	

When we analyze Table 6, we see that hierarchic thinking style is significantly higher among the women and internal and conservative thinking style points are significantly higher among the men. There is not a significant difference in other thinking styles according to gender variable. Table 7 contains One-way analysis of variance (ANOVA) results of the comparison of prospective teachers' thinking styles according to department variable.

Table 7. *T-Test Results of the Prospective Teachers' Thinking Styles According to Gender Variable*

Sub-Dimensions	Department	n	($\bar{x}$)	sd	p	Difference
Legislative	Science Education (1)	74	5.66	0.92		
	Elementary Education (2)	78	5.61	0.76	,680	
	Social Sciences Education (3)	70	5.82	0.90	,253	
	Total	222	5.70	0.74		
Executive	Science Education (1)	74	5.45	0.91		
	Elementary Education (2)	78	5.10	0.78	,026	2-1
	Social Sciences Education (3)	70	5.11	1.08	,040	3-1
	Total	222	5.23	0.93		
Judicial	Science Education (1)	74	5.15	0.88	,088	
	Elementary Education (2)	78	4.96	0.84	,003	2-3
	Social Sciences Education (3)	70	5.41	1.02		
	Total	222	5.16	0.93		
Monarchic	Science Education (1)	74	4.73	0.78		
	Elementary Education (2)	78	4.53	0.82	,158	
	Social Sciences Education (3)	70	4.48	0.84	,083	
	Total	222	4.57	0.88		
Hierarchic	Science Education (1)	74	5.65	0.95		
	Elementary Education (2)	78	5.30	0.83	,024	2-1
	Social Sciences Education (3)	70	5.37	1.08	,074	
	Total	222	5.44	0.92		
Oligarchic	Science Education (1)	74	3.81	0.95	,003	1-3
	Elementary Education (2)	78	3.86	0.89	,006	2-3
	Social Sciences Education (3)	70	4.31	1.04		
	Total	222	3.99	1.01		
Anarchic	Science Education (1)	74	4.30	0.96	,015	1-3
	Elementary Education (2)	78	4.26	0.82	,006	2-3
	Social Sciences Education (3)	70	4.68	0.94		
	Total	222	4.40	0.93		
Global	Science Education (1)	74	4.50	1.03		
	Elementary Education (2)	78	4.39	0.85	,477	
	Social Sciences Education (3)	70	4.58	1.09	,630	
	Total	222	4.49	0.99		
Local	Science Education (1)	74	4.23	1.07	,055	
	Elementary Education (2)	78	4.15	0.96	,013	3-2
	Social Sciences Education (3)	70	4.58	1.05		
	Total	222	4.31	1.04		
Internal	Science Education (1)	74	4.61	1.01	,013	1-3
	Elementary Education (2)	78	4.52	1.02	,002	2-3
	Social Sciences Education (3)	70	5.06	1.11		
	Total	222	4.85	1.09		
External	Science Education (1)	74	4.56	1.20		
	Elementary Education (2)	78	4.50	0.98	,738	
	Social Sciences Education (3)	70	4.62	1.03	,845	

Table 7 (Cont). *T-Test Results of the Prospective Teachers' Thinking Styles According to Gender Variable*

Sub-Dimensions	Department	*n*	($\bar{x}$)	*sd*	*p*	*Difference*
	Total	222	4.55	1.11		
Liberal	Science Education (1)	74	5.20	0.98	,030	2-1
	Elementary Education (2)	78	4.83	1.09		
	Social Sciences Education (3)	70	5.28	1.01	009	2-3
	Total	222	5.10	1.05		
Conservative	Science Education (1)	74	3.73	1.11		
	Elementary Education (2)	78	3.96	0.98	,213	
	Social Sciences Education (3)	70	4.22	094	,017*	3-1
	Total	222	3.96	0.89		

When we analyze Table 7, we see that there is a significant difference in "executive", "judicial", "hierarchic", "monarchic", "anarchic", "global", "local", "internal", "liberal" and "conservative" thinking styles according to the program they study. There is a significant difference in "hierarchic" and "liberal" thinking styles between social sciences in favor of social sciences. There is a significant difference in ''executive'' thinking style between science and others in favor of science. There is a significant difference in "monarchic", "anarchic" and "internal" thinking styles between social sciences and others in favor of social sciences. "Executive", "monarchic" and "hierarchic" thinking styles' points are highest among prospective science teachers. In addition, "legislative", "judicial", "monarchic", "anarchic", "global", "local", "internal", "external", "liberal" and "conservative" thinking styles' points are highest among prospective social studies teachers. Table 8 includes correlation calculations of relationship between prospective teachers' thinking styles and their attitude to teaching profession.

Table 8. *The Relationship between Prospective Teachers' Thinking Styles and their Attitude to Teaching Profession*

Factors	Love	Value	Coherence	Total
Legislative	,025	,105	,054	,050
Executive	,159*	,176**	,156*	,175**
Judicial	,037	,107	,092	,066
Monarchic	,162*	,074	,045	,135*
Hierarchic	,186**	,155*	,176**	,192**
Oligarchic	-,010	,004	-,016	-,009
Anarchic	,011	,016	,009	,012
Global	,240**	,104	,117	,205**
Local	-,068	,004	,029	-,039
Internal	-,059	-,048	-,067	-,062
External	,069	,035	,093	,071
Liberal	,068	,115	,130	,095
Conservative	-,011	-,081	-,086	-,039

There is a statistically significant relationship between prospective teachers' attitude to teaching profession points and "executive" (r = .175, p < .01), "monarchic" (r = .135, p < .05), "hierarchic" (r = .192, p < .01) and "global" (r = .205, p < .05) thinking styles. When we analyze the relationship between sub-dimensions, we see that relationships are positive except "monarchic", "internal" and "conservative" thinking styles. According to these findings, we may say that there is a statistically significant relationship between thinking styles and prospective teachers' attitude to teaching profession.

Conclusions and Discussions

This study aims to show thinking styles of prospective teachers and the relationship between these thinking styles and prospective teachers' attitudes to teaching profession. According to this, it has been tried to express whether students of the research show significant difference due to their gender and department.

According to research, prospective teachers (fourth grade, last year of education) educated in Dumlupınar University Primary School Education show positive attitudes to teaching profession. Other researches support this finding (Doğan and Çoban, 2009; Terzi and Tezci, 2007; Oral, 2004). This finding can be explained by their intentional choice, their love for teaching, their paying attention to teaching and their belief that they are going to be successful.

Female students' attitude to teaching is more positive than male students' in all aspects and results of other researchers are similar to this (Aydın ve Sağlam, 2012; Çapri and Çelikkaleli, 2008; Özbek, Kahyaoğlu and Özgen, 2007; Bozdoğan, Aydın and Yıldırım, 2007; Terzi and Tezci, 2007; Öztürk, Doğan and Koç, 2005; Saracaloğlu, Serin, Bozkurt and Serin, 2004). This would be an outcome of their perceptions. There is a general idea among the people that women are more suitable for teaching. It is also suitable for women because of work and life conditions. The reason of higher average point of women related to teaching would be this ideal image accepted for women; this belief of society would support women's positive attitude to teaching and their positive behaviors.

Attitude of fourth grade science teaching prospective teachers is more positive than class and social studies teaching prospective teachers. Attitudes of science teaching prospective teachers are not significant with primary school teaching prospective teachers while it is significant with social studies teaching prospective teachers. Attitude points in the studies of Özbek, Kahyaoğlu and Özden (2007); Terzi and Tezci (2007) show that points of social studies teaching prospective teachers are higher than others. There is not a significant difference between social studies teaching prospective teachers and science teaching prospective teachers in the study of Bozdoğan, Aydın and Yıldırım (2007). This would be the result of differences of universities, departments and instructors.

Most preferred thinking styles are legislative, hierarchic and executive. Legislative thinking style is innovative and ideogenetic. Students that adopt this style like to find solutions by themselves. Hierarchic thinking style means paying attention to many goals at the same moment related to different duties and areas. Those who adopt this style would do many things at the same moment by paying attention to their importance and by grading them. Owing to their being aware of more necessary things, they are more inclined to organize events and problems (Duru, 2004). Executive thinking style is related to carrying out a duty and a practice. Instead of obeying the existing mindsets, preferring structured problems and building a structure by themselves; they can be defined as individuals that like to practise available structures and methods. Individuals that have this style may be said to have practicing structure (Akbulut, 2006; Innerst, 1998). These individuals try to do their best in a subject and abstain from the works that need independent working (Buluş, 2005; Grigorenko ve Sternberg, 1997; Sternberg, 1997). Prospective teachers prefer oligarchic and conservative thinking styles less than others. Oligarchic thinking style means to do many things at the same moment without grading them. They like to do something quickly but they have problems in ordering. Conservative thinking style is traditionalist, realist and prefers the experienced. People of this style like to work according to experienced methods and they like to follow traditions. According to these findings, prospective teachers prefer

legislative; hierarchic and executive thinking styles more than others and oligarchic and conservative thinking styles less than others. According to Oflar (2010)'s research on teachers, primary school teachers prefer legislative more and conservative thinking style less. This finding supports the present study.

According to genders, hierarchic thinking style is significantly high among the women and internal and conservative thinking style is significantly high among the men. According to Yıldızlar (2010)'s study, men are internal and more conservative. According to Buluş (2005)'s study, men are more internal and conservative. According to Başol and Türkoğlu (2009), men are more conservative. However, according to Grigorenko and Sternberg (1997); and Zhang (1999) there is not a significant difference according to gender. These differences would be the outcome of a sub-cultural features and attitudes of students.

Executive, monarchic and hierarchic thinking style points of science teachers are higher than others. Legislative, judiciary, monarchic, anarchic, global, local, internal, external, liberal and conservative thinking style points of social studies teachers are higher. According to Sünbül (2004)'s study, there is one significant difference based on some of prospective teachers' departments. Saracaloğlu et al (2008) could find a difference in a sub-dimension not in anything else. Doğanay, Akbulut-Taş and Erden (2007) show us that there is a significant difference according to their department. As a result, it can be said that prospective teachers' thinking styles change according to their departments.

There is a significant relationship between the total attitude point of prospective teachers to teaching and executive, monarchic, hierarchic and global thinking styles. If we analyze the relations between sub-dimensions, we see that relations are positive among thinking styles except monarchic, internal and external thinking styles. These findings show that there is a significant relationship between thinking styles and total attitude point of prospective teachers to teaching profession. Prospective teachers' having these thinking styles and their high attitude to teaching profession show the value, love and attention they pay to teaching. In addition, we may say that this would positively affect their relationships with their students (in classroom), their methods and their technics.

Suggestions

Prospective teachers in the faculties of education should be educated about thinking style leanings, and about the things that influence thinking styles. In addition, they should be educated about weak and strong points of these thinking styles.

Curriculum of education faculties and their programs should include activities, projects and programs that would help students to have different thinking styles.

In order to make prospective teachers' attitude to teaching better and to increase their professional consciousness, social and economic conditions of teaching should be enhanced.

This research was carried out in science teaching, primary school teaching and social studies teaching departments. Prospective teachers' thinking styles and their attitude to teaching profession could be compared in different sample groups.

● ● ●

Mehmet UYGUN is an assistant professor in the Department of Elementary Education at Dumlupınar University, Kutahya. His research interest areas are literacy, reading and writing skills.

Halil KUNT is an assistant professor in the Department of Science Education at Dumlupınar University, Kutahya. His research interest areas are science teaching and environmental education

References

Aydın, R. & Sağlam, G. (2012). Öğretmen adaylarının öğretmenlik mesleğine yönelik tutumlarının belirlenmesi (Mehmet Akif Ersoy Üniversitesi örneği). *Türk Eğitim Bilimleri Dergisi, 10*(2), 257-294.

Bozdoğan, A. E., Aydın, D. & Yıldırım, K. (2007). Öğretmen adaylarının öğretmenlik mesleğine ilişkin tutumları. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi (KEFAD) 8*(2), 83-97.

Buluş, M. (2000). *Öğretmen adaylarında yükleme karmaşıklığı, düşünme stilleri ve bilişsel tutarlılık tercihinin bazı psikososyal özellikler ve akademik başarı çerçevesinde incelenmesi*. İzmir: Dokuz Eylül Üniversitesi Eğitim Bilimleri Enstitüsü, Yayımlanmamış Doktora Tezi.

Buluş, M. (2005). İlköğretim bölümü öğrencilerinin düşünme stilleri profili açısından incelenmesi. *Ege Eğitim Dergisi, 1(*6), 1-24.

Çapri, B. & Çelikkaleli, Ö. (2008). Öğretmen adaylarının öğretmenliğe ilişkin tutum ve mesleki yeterlik inançlarının cinsiyet, program ve fakültelerine göre incelenmesi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi, 9*(15), 33-53.

Çetin, Ş. (2006). Öğretmenlik mesleği tutum ölçeğinin geliştirilmesi (geçerlik ve güvenirlik çalışması). *Gazi Üniversitesi Endüstriyel Sanatlar Eğitim Fakültesi Dergisi,* 18, 28-37.

Çubukçu, Z. (2004). Öğretmen adaylarının düşünme stillerinin belirlenmesi. *Trakya Üniversitesi Sosyal Bilimler Dergisi, 5*(2), 87-106.

Demirel, Ö. (2005). *Eğitim sözlüğü*. Ankara: Pegem Akedemi.

Doğan, T. & Çoban, A. E. (2009). Eğitim fakültesi öğrencilerinin öğretmenlik mesleğine yönelik tutumları ile kaygı düzeyleri arasındaki ilişkinin incelenmesi. *Eğitim ve Bilim Dergisi, 34*(153), 157-168.

Doğanay, A., Akbulut-Taş, M. & Erden, Ş. (2007). Üniversite öğrencilerinin bir güncel tartışmalı konu bağlamında eleştirel düşünme becerilerinin değerlendirilmesi. *Kuram ve Uygulamada Eğitim Yönetimi,* 52, 511-546.

Duru, E. (2002). *Öğretmen adaylarında kişi-durum yaklaşımı bağlamında yardım etme davranışı eğilimi empati ve düşünme stilleri ilişkisi ve bu değişkenlerin bazı psikososyal değişkenler açısından incelenmesi*. İzmir: Dokuz Eylül Üniversitesi Eğitim Bilimleri Enstitüsü,Yayımlanmamış Doktora Tezi.

Duru, E. (2004). Düşünme stilleri: Kavramsal ve kuramsal çerçeve. *Eğitim Araştırmaları,* 14, 171-186.

Emir, S. (2013). Öğretmenlerin düşünme stillerinin eleştirel düşünme eğilimlerini yordama gücü (İstanbul-Fatih Örneği). *Kuram ve Uygulamada Eğitim Bilimleri. 13*(1), 325-347.

Fer, S. (2005). Düşünme stilleri envanterinin geçerlik ve güvenirlik çalışması (Validity and reliability study of the thinking styles inventory). *Kuram ve Uygulamada Eğitim Bilimleri (Educational Sciences Theory & Practice), 5*(2), 433-461.

Gay, L. R., Mills, G. E. & Airasian, P. (2006). *Educational research: Competencies for analysis and application* (8th. ed.). Upper Saddle River, NJ: Prentice Hall.

İnceoğlu, M. (2004). *Tutum, algı, iletişim*. Ankara: Elips Kitap Kesit Tanıtım. Ltd. Şti.

Kaptan, S. (1998). *Bilimsel araştırma ve istatistik teknikleri*. Ankara: Tekışık Web Ofset Tesisleri.

Karasar, N. (2011). *Bilimsel araştırma yöntemi* (22. Baskı). Ankara: Nobel Yayın Dağıtım

Oral, B. (2004). Eğitim fakültesi öğrencilerinin öğretmenlik mesleğine ilişkin tutumları. *Eğitim Araştırmaları,* 15, 88-98.

Özbek, R, Kahyaoğlu, M. & Özgen, N. (2007). Öğretmen adaylarının öğretmenlik mesleğine yönelik görüşlerinin değerlendirilmesi. *Sosyal Bilimler Dergisi, IX*(2), 221-232.

Özden, Y. (2003). *Öğrenme ve öğretme.* Ankara: PegemA Yayıncılık.

Öztürk B., Doğan, O. & Koç, G. (2005). Eğitim fakültesi öğrencileri ile fen-edebiyat fakültesi mezunlarının öğretmenlik mesleğine yönelik algılarının karşılaştırılması (Gazi Üniversitesi örneği). *Türk Eğitim Bilimleri Dergisi,3*(1),1-19.

Saban, A. (2005), Öğrenme, öğretme süreci. Ankara: Nobel Yayın Dağıtım.

Saracaloğlu, A. S., Serin, O., Bozkurt, N. & Serin, U. (2004). Öğretmen adaylarının mesleğe yönelik tutumlarını etkileyen faktörler. *Çağdaş Eğitim, 29*(311), 16-27.

Saracaloğlu, S., Yenice, N. & Karasakaloğlu, N. (2008), Eğitim fakültesi öğrencilerinin düşünme stillerinin çeşitli değişkenler açısından karşılaştırılması. *Uluslararası Sosyal Araştırmalar Dergisi*, 1/5, 732-751.

Sternberg, Robert J. (1997). *Thinking styles*. New York: Cambridge University Press.

Sternberg, R. J., Grigorenko, E. L., & Zhang, Li-F. (2008). Styles of learning and thinking matter in instruction and assessment. *Perspectives on Psychological Science,* 36, 486-506.

Sünbül, A. M. (2004). Düşünme stilleri ölçeğinin geçerlik ve güvenirliği. *Eğitim ve Bilim Dergisi*, 132, 25-42.

Terzi, A. R. & Tezci, E. (2007). Necatibey eğitim fakültesi öğrencilerinin öğretmenlik mesleğine ilişkin tutumları. *Kuram ve Uygulamada Eğitim Yönetimi,* 52, 593-614.

Üstüner, M. (2006). Öğretmenlik mesleğine yönelik tutum ölçeğinin geçerlik ve güvenirlik çalışması. *Kuram ve Uygulamada Eğitim Yönetimi,* 45,109-127.

Zabukovec, Z., & Kobal-Grum, D. (2004). Relationship between student thinking styles and social skills. *Psychology Science,* 46, 156-166.

Zhang, L. F. (1999). Further cross-cultural validation of the mental self-goverment. *The Journal of Psychology*, 133, 165-181.

Zhang, L. F. & Sternberg, R. J. (2005). A threefold model of intellectual styles. *Educational Psychology Review, 17*(1), 1-53.

This page is intentionally left blank