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Predictive Power of Mathematics Teacher Candidates' Learning Styles to Their Teaching Style Preferences*

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ABSTRACT

In this research, it was aimed to examine predictive power of pre-service mathematics teacher's learning syle on teaching style preferences. This research was carried out by using survey method. The research was carried out by a total of 374 II, III and IV grades pre-service mathematics teachers at the Department of Primary Mathematics Education in Necmettin Erbakan University Ahmet Keleşoğlu Faculty of Education. In this research, "Grasha-Reichmann Learning Style Inventory", prepared by Grasha-Reichmann (1974) and adapted to Turkish by Sarıtaş and Süral (2010), was used in order to determine learning styles, and "Grasha Teaching Style Inventory", prepared by Grasha (1994) and adapted to Turkish by Sarıtaş and Güral (2010), was used in order to determine teaching styles. The collected data analysed by descriptive and inferential statistical techniques, as t-test, one-way analysis of variance (ANOVA), correlation and regression. The following results were obtained by the study; The most preferred learning style is the "independent" style, while the least preferred learning style is the "avoidant" learning style. The most preferred teaching style is "Group 3 (Facilitator/ Personal Model/Expert)", while the least preferred teaching style group is "Group 2 (Personal Model/Expert/Formal Authority)". A relation has been determined between the learning and the teaching style preferences.

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Matematik Öğretmen Adaylarının Öğrenme Stillerinin Öğretim Stilleri Tercihlerini Yordama Gücü

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ÖZ

Araştırmanın amacı, matematik öğretmen adaylarının öğrenme ve öğretim stillerini tespit ederek, sahip oldukları baskın öğrenme stillerinin öğretim stilleri tercihlerini yordama gücünü araştırmaktır. Araştırmada ilişkisel tarama yöntemi kullanılmıştır. Araştırmanın örneklemini, Necmettin Erbakan Üniversitesi Ahmet Keleşoğlu Eğitim Fakültesi İlköğretim Matematik Eğitimi Anabilim Dalında öğrenim gören 374 öğretmen adayı oluşturmuştur. Araştırmada veri toplama aracı olarak, "Grasha-Reichmann Öğrenme Stilleri Ölçeği" ve "Grasha Öğretim Stili Ölçeği" kullanılmıştır. Verilerin analizinde betimsel istatistikler, t testi, korelasyon ve regresyon analizinden yararlanılmıştır. Araştırma sonuçlarına göre öğretmen adaylarının baskın öğrenme stilleri, tercih edilme oranında sıralandığında en çok (%31,3) "bağımsız" en az ise (% 6,1) "çekingen" stile sahip oldukları, öğretim stilleri tercih edilme oranında sıralandığında ise en çok %57.8 ile Kolaylaştırıcı/Kişisel Model/Uzman en az ise %5.3 ile Kişisel Model/Uzman/Otoriter öğretim stiline sahip oldukları tespit edilmiştir. Koreleasyon analizi, öğretmen adaylarının baskın öğrenme stilleri ile öğretim stilleri tercihleri arasında yüksek düzeyde ve olumlu ilişki ortaya koymuştur. Regresyon analizi ise baskın öğrenme stillerinin öğretim stili tercihlerindeki değişimin %12'sini açıkladığını ortaya koymuştur. Araştırmanın sonuçları, baskın öğrenme stilinin öğretim stili tercihlerini açıklamada önemli ölçüde katkı sağladığı şeklinde yorumlanabilir. Dolayısıyla eğitim-öğretim sürecinde bilgi aktarmaya dayalı ve öğretmen merkezli yaklaşımların yerine öğrenci merkezli yaklaşımların benimsendiği bireylerin öğrenme stillerine ve bireysel farklılıklara önem verildiği çağdaş yaklaşımlara yer verilmelidir. Ayrıca öğrenenlerin öğretim stil tercihlerinin iyi belirlenmesi ve bu doğrultuda öğretme ve öğrenme durumlarının düzenlenmesi, bu ortamlar düzenlenirken belirtilen stillere dayalı olarak öğretim yöntem ve tekniklerin uygulanması önem arz edecektir. Literatür incelendiğinde öğrenme ve öğretim stilleri arasındaki olası bir ilişkiyi inceleyen ve yordayan çalışmaların sayıca azlığı bu çalışmanın bulgularının yapılacak diğer çalışmalara yön vermesi açısından önemli olduğu düşünülmektedir.

Anahtar Kelimeler:

Öğrenme Stili, Öğretim Stili, Matematik Eğitimi, Öğretmen Adayları.

INTRODUCTION

Individual differences that interest educators include intelligence, abilities and skills, personality traits, learning styles and personal traits. While the concept of individual differences gives direction to the theoretical work of educators, it is generally ignored in practice. This situation should not be ignored in education-teaching activities because each individual is unique and the basic characteristics of individuals are different (Ekici, 2003).

There are numerous differences between individuals. Differences in height, weight, facial lines and body shapes of individuals can be observed directly, whereas qualities such as interest, ability, success, attitude and personality can be observed indirectly (Özgüven, 2002).

In order to increase the quality of education, an appropriate teaching environment is required. Individual differences should be taken into consideration and brought together in the

most common denominator in order to ensure the appropriate learning environment. The aim of the training should be to maximize the student's abilities and skills. In this respect, it can be considered as factors that improve the quality of teaching to identify teachers and students, to reveal their individual differences by identifying their interests, needs and skills, to determine the interaction of these differences with each other and to determine the effects of these variables on the learning process. Because individual differences affect the whole life process as well as the processes related to learning and teaching (Kolay, 2008).

Each individual learns in different ways. Just like hair styles, clothes preferences, palate tastes and so on. Each individual tends to choose learning styles that are natural, easy and require comfort as appropriate to their ability. Therefore, each individual has a unique learning style. (Aydogdu; Kesercioglu, 2005). In this context, some researchers have considered learning styles as a personal and distinctive trait that shows how learning styles act or behave in the learning environment (Koçak, 2007). These differences play an important role in determining the activities designed in the teaching process.

The teacher has a great role to play in determining the learning styles of the students, in creating the classroom environment according to the learning styles, and in determining and applying different methods and techniques according to the learning styles of the students. Because, as long as the teacher plans and applies the strategies, methods and techniques that he/she will use in the learning and teaching process according to the student's learning styles, he/she can achieve success. Otherwise, in today's student-centered understanding, when the teacher does not take into account the individual differences, that is, he does not act according to the learning styles of the students, the teaching-learning process will be interrupted. Thus, both the teacher and the student will be adversely affected by this process. From this point of view, the teacher should shape his / her own style according to the learning styles of the students. As a result, the teaching style of the teacher gains importance. Because teaching style is related to the teacher's approach to teaching and learning. These approaches shape the attitudes of the teachers towards the curriculum, method, teaching environment and the materials they use.

The concept of teaching styles has become indispensable in educational sciences literature with the increasing importance and necessity of individual differences in education together with learning styles in recent years. Research on how effective teaching should be; it reveals the necessity of diversifying teaching and teaching in accordance with student characteristics. Individual differences between students are another reason for this requirement (Kolay, 2008). The first thing teachers can do to contribute to the learning process is perhaps to adopt the fact that students have different learning styles. Thus, the teacher should be familiar with the choice of teaching style and be aware of how to apply it effectively in order to maximize the learning of the students.

Purpose of The Research

The aim of this study is to determine the learning and teaching styles of prospective mathematics teachers and to investigate the power of their learning styles to predict their teaching style preferences. In this context, it is aimed to determine the learning and teaching

styles of selected mathematics teacher candidates and to examine the relationship between their learning and teaching styles.

For this purpose, the following sub-problems were sought:

1. What are the learning styles of pre-service mathematics teachers?

2. What are the teaching styles adopted by pre-service mathematics teachers?

3. Is there a relationship between the learning styles of pre-service mathematics teachers and their teaching styles?

Concept of Learning Style

The concept of learning style was first introduced by Rita Dunn in 1960. Since then, various studies have been carried out. Each individual learns in different ways. Just like hair styles, clothes preferences, palate tastes and so on. Each individual tends to choose learning styles that are natural, easy and require comfort as appropriate to their ability. Therefore, each individual has a unique learning style.

This inherent feature affects behavior at every stage of human life (Aydoğdu & Kesercioğlu, 2005). In this context, some researchers have considered learning styles as a distinctive and distinctive feature of learning that shows how students will act or behave in a learning environment (Koçak, 2007). These differences play an important role in determining the activities designed in the teaching process.

"Learning style" is generally defined as a group of individual characteristics and preferences that reveal how a student perceives, interacts with, and reacts psychologically to the learning environment (Ersoy, 2003).

Grasha (2002) defined the learning style as a combination of the student's skill in the process of obtaining information and learning experiences. Dunn and Dunn (1992) learn the style of learning; It is defined as a way that differentiates for each individual, starting with an individual's focus on new and difficult knowledge or skills, and using the information to receive, process in the mind and place it in his own mind. When the literature on learning styles is examined, many different learning style models emerge. One of these models is the Grasha-Reichmann Learning Style Model prepared by Grasha and Reichmann.

Grasha-Reichmann Learning Style Model

Grasha (2002) identified six learning styles. These:

Competetive: People with this style strive to perform better than other students in the classroom. They believe that it is necessary to compete with other students for the prizes presented in the course. They like being the center of attention and being appreciated in the classroom.

Advantages: Motivate students to attend classes and set goals for learning.

Disadvantages: Students with this style may block the paths of less competitive individuals, making it difficult for individuals to appreciate and collaborate to learn.

Collaborative: Individuals with this learning style; think that ideas and talents can be learned by sharing. They are also encouraged to work with others in collaboration with teachers.

Advantages: Improves the skills of working with groups and teams.

Disadvantages: Not suitable for competitive people. Individuals with this style are very dependent on others, so it is difficult for them to work alone.

Avoidant: Individuals with this learning style; they are not enthusiastic about learning content and attending class. They do not attend students and teachers. They are not related to what is happening in the classroom.

Advantages: They can avoid tension and anxiety in taking important steps that will change their lives. They have time to perform fun but less productive tasks.

Disadvantages: Poor performance and another reminder of negative feedback failures. They prevent themselves from setting productive goals.

Participant: A good member of the class. She enjoys going to class and participates in class activities as much as possible. Participate in classes as much as possible.

Advantages: Get the best out of every class experience.

Disadvantages: They can keep the needs of others ahead of themselves.

Dependent: Shows a small amount of intellectual curiosity and learns only what is needed. He sees his teacher and peers as a source of structure and support, and seeks authority as a guideline on what to do.

Advantages: It is adept at managing concerns and receiving clear instructions.

Disadvantages: As a student it is difficult to develop autonomy skills and self-direction. They can't learn how to deal with uncertainty.

Independent: Students who like to think for themselves and trust their own learning skills. They prefer to learn what they feel is important and prefer to work alone in class projects rather than working with other students.

Advantages: Self-starting, self-directed students to improve their skills.

Disadvantages: They may be somewhat inadequate in collaborative skills. They may have problems exchanging views with others and asking for help if necessary.

Table-1: Grasha-Reichmann Learning Style Model Properties

Independent	**Dependent:**
• Enjoying working alone	• Rely on teacher guidance
• Complete tasks	• Needing support
• Responsibility	• Being irresponsible
• Free thinking	• Imitate the leader
Collaborative	**Competetive**
• Prefer to share activities	• Competitive and self-centered
• Enjoying cooperation	• Self-focus and motivation to win
• Enjoying interaction	• Enjoying games and competitions
Participant	**Avoidant**
• Caring about the course content	• Ignoring the course content
• Enjoying the class	• Disliking the class
• Want to learn	• Being indifferent to learning
• Monitor compliance and orientation	• Non-compliance and resistance to referrals

(Source: Zengin, 2008)

Concept of Teaching Style

Dunn and Dunn (1979) defined the teaching style as teachers' attitudes towards the curriculum, method, teaching environment and the materials they use. According to Conti (1985), teaching style is the unique teaching style that a teacher persists. Grasha (2003) defined teaching styles as a special expression of the teacher's behavior, performance, belief, needs and professional knowledge in the classroom. According to Grasha (2002), the teaching style is the continuous and consistent behaviors of teachers towards students in the process of learning and teaching. In general, teaching styles include instructional behaviors related to how teachers present information to students in the teaching-learning environment, how they interact with students, and how they socialize students (Üredi, 2006). Despite the different definitions of teaching style, the common aspect of all these definitions is that teachers' teaching behaviors are consistently exhibited by teachers (Altay, 2009). Teaching style is an indicator of how the teacher presents the information and the quality of the interaction with the students.

The readiness, beliefs and consistency of the teachers are decisive in revealing the style. The teaching style includes behaviors such as the method, technique, reinforcement, inclusion of the student, giving feedback, explaining, and asking questions during the teaching. It can be said that teaching style is the sum of all observable movements of a teacher such as voice tone, addressing style, self-expression style A teaching method is ideal for some students and may be difficult for others to learn. The teacher's ability to use several styles together is a factor that increases her and her students' motivation. An educational activity that takes into account the learning style of individuals will make a positive contribution to the success of the students (Kolay, 2008).

The teacher should keep the pulse of the class when determining the teaching style. The teaching style of the teacher should be able to vary and change according to the level of knowledge and readiness of the students. The information obtained by determining students' learning styles can help educators to develop a method in learning and teaching environments (Akkoyunlu, 1995).

METHOD

Research Model

In this research, relational survey model, which is one of the general survey models, is used. The screening model is the whole of the processes used for the realization of learning and the development of desired behaviors in the individual, describing a situation as it exists in the past or present. (Karasar, 2002).

Participants

The population of the study consists of 483 students, 156 second, 172 third and 155 fourth grade students studying at the Department of Elementary Mathematics Teaching at Necmettin Erbakan University Ahmet Keleşoğlu Faculty of Education in 2011-2012 academic year. In the study, it was aimed to reach the whole universe and on the day the data was collected, a total of 374 students, 122 students from the second grade, 133 students from the third grade and 119 students from the fourth grade, that is, 77.4% of the universe were reached. This ratio indicates that the participants are sufficient to represent the universe.

Data Collection Tools

In this research, "Grasha-Reichmann Learning Style Scale", prepared by Grasha-Reichmann (1974) and adapted to Turkish by Sarıtaş and Süral (2010), was used in order to determine learning styles, and "Grasha Teaching Style Inventory", prepared by Grasha (1994) and adapted to Turkish by Sarıtaş and Güral (2010), was used in order to determine teaching styles.

The Grasha-Reichmann Learning Style Scale

The Grasha-Reichmann Learning Style scale provides a broad framework of learning styles in six categories. In the scale, students' learning preferences; It is aimed to be determined in six learning style categories as independent, avoidant, collaborative, dependent, competitive and participant. The scale consists of (1) Strongly Disagree, (2) Disagree, (3) Less Agree, (4) Agree, (5) Strongly Agree, consists of 60 items with 6 sub-dimensions and 10 items of each sub-dimension. 10 items in each sub-dimension were distributed systematically into the scale. Pearson Correlation Test was used to determine the significance level of the scale. As a result of the actual application of GRLSS, Cronbach Alpha internal consistency coefficients were .77 for the language validity and .80 for the whole scale. In addition, the significance level was calculated as .62 (Sarıtaş and Süral, 2010). In this study, Cronbach Alpha internal consistency coefficients of the sub-dimensions of Learning Styles Scale ranged between .63 and .82. The overall scale was calculated as .87.

Grasha Teaching Style Scale

In general, Grasha designed the styles preferred by the instructors during teaching in the form of experts, formal authority, personal, facilitator and delegator. The Grasha Teaching Style Scale (GTSS - 1994) was adapted to Turkish by Sarıtaş and Süral (2010) and made applicable to higher education students and faculty members.

The scale consists of 40 items with 5 sub-dimensions and 8 items belonging to each sub-

dimension, (1) Strongly Disagree, (2) Disagree, (3) Less Agree, (4) Agree, (5) Strongly Agree. 8 items in each sub-dimension were distributed systematically into the scale. As a result of the actual application of GTSS, Cronbach Alpha internal consistency coefficients were .80 for the language validity and .88 for the whole scale. Moreover, the significance level was calculated as .80 (Sarıtaş & Süral, 2010).

In this study, Cronbach Alpha internal consistency coefficients of the sub-dimensions of Teaching Styles Scale ranged between .39 and .74. The total scale was calculated as .86.

Data Analysis

Firstly, whether the data collected from all scales had a normal distribution or not, it was also determined whether the distributions were homogeneous. Parametric tests were used after finding normal distribution of the data and homogeneity. Descriptive statistics, t-test and one-way analysis of variance (Anova), correlation and regression analysis were used as statistical techniques. All of these statistical analyzes were performed with SPSS program on computer.

FINDINGS

Findings of Learning Style

Arithmetic mean and standard deviations were calculated by scoring the answers of the teacher candidates to the learning style scale. The distribution of the prospective teachers according to their learning style preferences is presented in Table 2.

Table-2: Distribution of Pre-Service Teachers According to Learning Style Preferences

	Learning Style					
	Independent	**Avoidant**	**Collaborative**	**Dependent**	**Competitive**	**Participant**
n	117	23	79	87	25	43
%	31.3	6.1	21.1	23.3	6.7	11.5
$\overline{X}$	4.27	4.23	4.32	4.23	4.33	4.08
S_X	.35	.43	.37	.34	.48	.47

(n=374)

According to Table 2;

When pre-service teachers' learning styles are ranked according to preference; 31.3% independent; 23.3% dependent; 21.1% collaborative; 11.5% participant; 6.7% competitive and avoidant with 6.1%. In other words, approximately 55% of the pre-service teachers are located in two opposite poles of the independent-dependent dimension in terms of their learning style preferences. This is an indication that the said dimension has a significant effect on the learning style preferences of the candidates.

Findings of Teaching Style

Arithmetic mean and standard deviations were calculated as a result of the scoring of the responses of the teacher candidates to the teaching style scale. It is unthinkable to limit the teaching styles of the instructors under a single style. Instead, it is more appropriate to accept the teaching style of the groups formed by variations of different teaching styles (Grasha,

1996). From this point of view, the teaching style groups of the prospective teachers were determined in accordance with Grasha (1996). The distribution of the candidates according to their teaching style preferences is given in Table 3.

Table-3: Distribution of Pre-Service Teachers According to Teaching Style Preference Groups

	Teaching Style Preference Groups			
	Experts/ Authority (Group 1)	**Personal /Expert/ Authority (Group 2)**	**Facilitator/ Personal / Expert (Group 3)**	**Delegator /Facilitator/ Expert (Group 4)**
n	37	20	216	101
%	9.9	5.3	57.8	27.0
$\overline{X}$	3.80	3.85	3.91	3.77
S_X	.44	.43	.31	.34

According to Table 3; The most preferred teaching style group was "Facilitator/Personal Model/Expert" with 57.8% whereas the least preferred teaching style group was "Personal Model/Expert/Authority" with 5.3%.

Findings on the Relationship Between Learning and Teaching Style

Correlation analysis was used for the possible relationship between teacher candidates' learning styles and instructional style preferences. The results are presented in Table 4.

Table-4: The relationship between prospective teachers' learning styles and teaching style preferences

Correlation Analysis	**LEARNING STYLE**					
Teaching Style Preferences	**Independent**	**Avoidant**	**Collaborative**	**Dependent**	**Competitive**	**Participant**
Experts/ Authority (Group 1)	.40	-1.00**	.90*	.93**	.24	.72
Personal /Expert/Authority (Group 2)	.99*	1.00**	-1.00**	.43	-	-
Facilitator/ Personal / Expert (Group 3)	.59**	-.21	.04	.45 **	.32	.38
Delegator /Facilitator/ Expert (Group 4)	-.22	-.42	.48*	.19	.80	.64*

**p<0,01 *p<0.05

According to Table 4 showing the correlation coefficients;

The coefficients between the learning styles and instructional styles scores of the prospective teachers generally vary between -0.22 and +0.99. Ten of these coefficients were found to be significant.

There is a negative and high level of relationship between "Avoidant" learning style and "Experts/ Authority (Group 1)" the preference of teaching style. A positive and high level relationship was found between "Cooperative" and "Dependent" learning styles.

There is a negative and high level relationship between "Personal/Expert/Authority (Group 2)" teaching style preference and "Collaborative" learning style. A positive and high-level relationship was also found between "independent" and "avoidant" learning styles.

A positive and moderate relationship was found between "Facilitator/Personal/Expert (Group 3)" teaching style preference and the "Independent" and "Dependent" learning styles. On the other hand, a positive and moderate relationship was found between the preference of "Delegator/Facilitator/Expert (Group 4)" teaching style and "Collaborative" and "Participant" learning style.

Correlation analysis provides information about the existence, direction and degree of the relationship between the variables, but it is not possible to determine the cause-effect relationship between the variables by correlation analysis. For this reason, regression analysis was used to determine the existence of cause-effect relationship between the variables. At this point; ***"Is it a predictor of teacher candidates' learning styles to teaching style preferences?"*** the answer to the question was sought by regression analysis.

In the regression analysis, R and R_2 coefficients calculated for learning and teaching styles were found to be 0.35 and 0.12, respectively. These coefficients indicate that the learning style in the independent variable state explains the variance of the teaching style preferences in the dependent variable situation at a rate of approximately 12%, in other words, the learning styles at the level of 12% are effective in shaping the teaching styles.

The results of the F test for the regression analysis are presented in Table 5 and Table 6.

Table-5: F test result of regression analysis

Model		**Sum of squares**	**D.f.**	**Mean of Squares**	**F**
1	Regression	5.306	1	5.306	50.196**
	Residue	39.322	372	.106	
	Total	44.628	373		

**P<0,01

Table-6: Coefficients of the regression equation

	B	**BETA**	**t**
Constant	2.543	-	13.612**
Learning Style	.310	.345	7.085**

**P<0,01

According to Table 5;

F statistics were found to be significant at $\alpha = 0.05$. Significance of F test can be interpreted as learning style, which is accepted as independent variable, contributes significantly in explaining the preferences of teaching style that is accepted as dependent variable.

RESULT

In this section, the results are discussed in relation to the findings obtained in the previous sections of the research. Recommendations were made based on these results.

The most preferred learning style of the prospective teachers is independent and the

least preferred learning style is avoidant learning style. According to these results, when the characteristics of the most preferred independent learning style are taken into consideration; it can be said that they have characteristics that love to think for themselves and rely on their own learning abilities, who prefer to learn the subject they feel is important, and who prefer to work alone rather than working with other students in courses and project works.

Considering the characteristics of the least preferred avoidant learning style; it can be said that very few of the teacher candidates are indifferent to learning, do not care about the content of the course and do not like the class.

In addition, when the pre-service teachers' learning styles are preferred, it is seen that; the total preference rates of "independent", "collaborative" and "participant" learning styles are higher than the sum of "dependent", "competitive" and "avoidant" learning styles.

In this case, considering that independent, collaborative and participant styles are student-centered approaches (Grasha, 2002), it can be interpreted that the majority of prospective teachers adopt and apply student-centered approaches. As a matter of fact, in Grasha's (2002) study; It was stated that cooperative and participant learning styles were more common in the classes where student-centered approaches were applied, the teacher structured by the teacher, and dependent and avoidant learning styles were more common among the students in the classes where teacher-centered studies were applied. This result is in line with the research findings.

While the most preferred teaching style group of the pre-service teachers was 3rd group (Facilitator / Personal Model / Expert), the least preferred teaching style group was the 2nd group (Personal Model / Expert / Authority). 3rd group (Facilitator / Personal Model / Expert) pre-service teachers who prefer teaching style; It emphasizes teacher roles that answer students' questions, attach importance to classroom interaction to increase students' activity, organize activities, monitor students' behavior and encourage critical thinking (Grasha & Yangarber-Hicks, 2000).

According to Grasha (1996), the classroom environment created by teachers with these teaching styles is based on students' collaboration, participation, interactions, interpretations and inquiries. The teacher often consults students, evaluates the results of their group work, and proposes different approaches to solving various problems. The teacher listens to the students' thoughts, facilitates the discussion and clarifies the thoughts. Good communication established by the teacher facilitates the teacher's role as a consultant and makes students more willing to share their ideas.

At this point, the teacher should be able to encourage students' narratives. The teacher starts the work and then the students continue. The findings obtained are in parallel with the studies in the literature (Grasha, 2002; Deveci, 2008; Üredi, 2006).

In the study, it was also observed that the pre-service teachers who preferred the 1st group (Expert/Authority) teaching style also adopted independent learning style in the first place and dependent learning style in the second; In the 2nd group (Personal Model/Expert/Authority), those who prefer teaching style adopted the dependent learning style in the first and independent learning style in the second; 3. Group (Facilitator/Personal

Model/Expert) who prefer the style of learning independent learning style in the first place, the second is the cooperative learning style and the 4th group (Delegator/Facilitator/Expert) teaching style in the first independent learning style and secondly, they adopted cooperative learning style.

There is a negative and high level of relationship between "Avoidant" learning style and Expert/Authority (1st group) the preference of teaching style.

A positive and high level relationship was found between "Cooperative" and "Dependent" learning styles. There is a negative and high level relationship between Personal Model/Expert/Authority (2nd Group) teaching style preference and "Cooperative" learning style.

A positive and high level relationship was found between "independent" and "avoidant" learning styles. A positive and moderate relationship was found between the "Facilitator/Personal Model/Expert (3rd Group)" teaching style preference and the "Independent" and "Dependent" learning styles. A positive and moderate relationship was found between the preference of "Delegator/Facilitator/Expert (Group 4)" teaching style and "Cooperative" and "Participant" learning styles.

As a result, it can be commented that learning style contributes significantly to explaining teaching style preferences. As a matter of fact, Grasha (2002) investigated the factors that affect the choice of teaching styles and concluded that learning styles play an active role in the choice of teaching styles. The student either adopts or resists the teaching style applied by the teacher in the teaching process. At this point, it is important to ensure harmony between teachers 'teaching styles and students' learning styles. The findings of this study support the results of Grasha (2002).

RECOMMENDATIONS

The results of the study indicate that the majority of the participants adopt student-centered approaches. Students who adopt a student-centered learning style should be able to plan teaching environments appropriate to their learning styles. Therefore, in the education-teaching process, learning styles and individual differences are given importance instead of teacher-centered and student-centered approaches. At the same time, it is suggested that prospective teachers should use student-centered approaches in their teaching life considering the studies showing that their teachers adopt their teaching styles (Ertekin, 2005).

Significant relationships have emerged between the learning and teaching styles adopted by prospective teachers. This requires, candidates to have knowledge of their own styles and fulfill the characteristics of their styles. Therefore, candidates should be informed about the characteristics of their styles. When the results regarding the existence of the relationship between learning and teaching styles revealed in the study are considered; teachers, academics, students can change or improve their teaching styles towards their learning styles by analyzing their learning styles.

The small number of studies examining and predicting a possible relationship between learning and teaching styles in our country reveals the need for research on this subject. For

this reason, it is recommended to conduct various researches on this subject.

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