

Learning Styles Of English Preparatory School Students and The Relationship Of Their Proficiency With Learning Styles and Gender

İngilizce Hazırlık Okulu Öğrencilerinin Öğrenme Stilleri ve Başarı Puanlarının Öğrenme Stilleri ve Cinsiyetleri

Fatih GÜNGÖR

Afyon Kocatepe Üniversitesi, Eğitim Fakültesi, İngiliz Dili Eğitimi Anabilim Dalı, Afyonkarahisar

Gülsün SOFRACI, Dilek ÇELİK

Adnan Menderes Üniversitesi, Yabancı Diller Yüksekokulu, Aydı

Demet YAYLI

Pamukkale Üniversitesi, Eğitim Fakültesi, İngiliz Dili Eğitimi Anabilim Dalı, Denizli

Makalenin Geliş Tarihi: 23.07.2014

Yayına Kabul Tarihi: 10.11.2015

Abstract

This study aims to determine the learning styles of English Preparatory School students, and examine the relationship between their proficiency scores, and their learning styles and gender. A sample of 263 students participated in the study, and their learning styles were determined by using Kolb's Learning Style Inventory (LSI). It was found that the most prevailing learning styles were diverging and accommodating. However, no statistical significance could be found in the relationship between their gender, and proficiency scores and learning styles. As a conclusion of this study, educators should be skeptical about categorizing learners in a single category.

Keywords: *learning styles, English preparatory school, gender*

Özet

Bu çalışmanın amacı İngilizce Hazırlık Okulu öğrencilerinin öğrenme stillerini tespit etmek ve başarı puanları ile öğrenme stilleri ve cinsiyetleriyle arasındaki ilişkiyi araştırmaktır. Çalışmaya 263 hazırlık okulu öğrencisi katılmış ve bunların öğrenme stilleri Kolb'un Öğrenme Stilleri Envanteri ile belirlenmiştir. En baskın öğrenme stilleri değişiren ve yerleştirendir. Öte yandan, öğrencilerin öğrenme stilleri ve başarı puanlarının cinsiyetlerine göre istatistiksel olarak anlamlı bir fark taşımadığı bulunmuştur. Mevcut çalışmanın sonucu olarak eğitimcilerin öğrenenleri tek bir kategori içerisinde alma konusunda şüpheli olmaları önerilmektedir.

Anahtar Kelimeler: *öğrenme stilleri, İngilizce hazırlık okulu, cinsiyet*

1. Introduction

Over the last several decades, English has become important as the pre-eminent ‘global’ language (Ricento, 2010). Crystal (2003) states that 75 territories have held or continue to hold English as an official or co-official language, and total population of these territories is 2.24 billion people according to 2001 census. This situation entails learning English for a number of reasons like business, education, and communication. When it is considered that English language learners are from many different linguistic and cultural backgrounds (Murray & Christison, 2011), learners’ language needs, their backgrounds, expectations and beliefs and preferred learning styles become also important correspondingly (Richards, 2001). Considering that learning styles are related to the academic achievement in higher education (Busato, Prins, Elshout, & Hamaker, 2000) and a well-match between learning styles and teaching would contribute to academic achievement, it is essential to gather information about the abilities, learning preferences and desired goals (Graves, 2000) of English language learners. Furthermore, Dörnyei (2003, 2005) believes the critical position of individual differences in adult language learning. Therefore, this study aims to delineate learning styles of a group of Turkish students in English preparatory classes in a state university and to explore the relationships among learning styles, proficiency and gender through using Kolb’s Learning Style Inventory which examines the types of learners in four different learning styles as converging, diverging, accommodating and assimilating.

Individual differences

All individuals do not behave or think in the same way, and they all have different learning preferences (Woolfolk, Winne, & Perry, 2003). According to Littlewood (1984), individuals enhance their language acquisition following different paths of development at different pacing. These differences underlie individual differences in learning. As a second language acquisition (SLA) researcher, Dörnyei (2005) defines individual differences as “enduring personal characteristics that are assumed to apply to everybody and on which people differ by degree” (p. 4). Considering the implications of these individual differences, Rogers (1978, p. 251) identified following premises on which individualized language instruction should be based on:

1. different learning needs, styles and interests of individual language learners,
2. different skills, styles and interests of individual language teachers,
3. individualized learning-teaching strategies and activities,
4. and observed individual differences.

On this basis, to be able to implement successful language programs, Richards (2001) suggested a situation analysis on institutes, teachers and learners. There was a need for a classification of learner dimensions in situation analysis. Due to the dearth of such framework in the field of SLA, Ellis (2004) classified the factors responsible for individual differences in L2 learning according to abilities, propensities, and learner cognitions about L2 learning and learner actions as presented in Table 1:

Table 1. Factors responsible for individual differences in L2 learning (from Ellis, 2004: 530)

Category	Factors
A Abilities	1 Intelligence
	2 Working memory
	3 Language Aptitude
B Propensities	1 Learning style
	2 Motivation
	3 Anxiety
	4 Personality
	5 Willingness to communicate
C Learner cognitions about L2 learning	Learner beliefs
D Learner actions	Learning strategies

Of all these factors in Table 1, learning styles are defined as fairly fixed for individuals (Riding, 2000) and they “imply a higher degree of stability” (Sternberg & Grigorenko, 2001, p.3). In this sense, learning styles are always worth investigating in the realm of foreign language learning. McNation and Macalister (2010) also aptly point out that research studies on the nature of language, learning and language learning in particular might guide the choice of what to teach and how to order it, and the presentations of items to be learned respectively. According to the studies carried out in language learning domain, individual differences have been found to predict second language (L2) learning success within the range of 0.50 and above regarding multiple correlations with language attainment (Dörnyei & Skehan, 2003; Sawyer & Ranta, 2001). The suggestions of these studies emphasize effective use of material and the importance of taking account of individual differences, learning styles, learner attitudes and motivation. The current study also aims to reveal the learning styles of language learners in a different context.

Learning styles

There is not a unique way to learn, so each individual has his/her own way of learning, which is called learning styles (Tuckman, Abry, & Smith, 2008). Keefe (1990, p. 371) also defines learning styles as “...characteristic cognitive, affective and psychological traits that serve as relatively stable indicators of how learners perceive, interact with and respond to learning environment.” However, Dunn, DeBello, Brenman and Murrain (1981) added a few components, and defined learning styles as a synthesis of environmental, emotional, sociological, physical, and psychological elements that permit individuals to receive, store, and use knowledge or abilities. Therefore, learning styles are accepted as an important component of learning process (Ekici, 2003) and there have been 23 different models of learning styles proposed by the researchers in the field (see Table 2).

Table 2. Taxonomy of learning styles (based on Cassidy's taxonomy, 2004, p. 422)

Researcher	Model	Researcher	Model
Witkin (1962)	Field Dependence/independence	Enwistle&Tait (1995)	Surface-deep
Kagan (1965)	Impulsivity-reflexivity	Biggs et al. (2001)	SPQ (Study Process Questionnaire)
Holzman and Klein (1954)	Leveller-sharpener	Schmeck et al. (1991)	ILP (Inventory of Learning Processes)
Pask (1972)	Holist-serialist	Hunt, Butler, Noy, and Rosser (1978)	Conceptual level
Pavio (1971)	Verbaliser-visualiser	Dunn, Dunn, and Price (1989)	LSI (Learning Style Inventory)
Gregorc (1982)	Style delineator	Recihmann and Grasha (1974)	Styles of learning interaction model
Kauffmann (1979)	Assimilator-explorer	Ramirez and Castenada (1974)	Child rating form
Kirton (1994)	Adaptation-innovation	Reinert (1976)	ELSIE (Edmonds Learning Style Identification Exercise)
Allinson and Hayes (1996)	Intuition-analysis	Hill (1976)	Cognitive Style Interest Inventory
Kolb (1984)	ELM (Experiential Learning Model)	Letteri (1980)	Learner types
Honey and Mumford (1992)	LSQ (Learning Styles Questionnaire)	Keefe and Monks (1986)	Learning style profile
Vermunt (1994)	ILS (Inventory of Learning Styles)		

These learning style models have been applied to different areas of education (Brandt, 1990) for a number of reasons such as classifying preferred learning styles of students, identifying potential learning problems (Demirbas & Demirkan, 2007), and increasing students' academic achievement (Clark-Thayer, 1987). Similar to the learners of other languages, English language learners use their own learning styles for their language development and studies (Yılmaz, 2004). However, languages are acquired through involvement in the phases of exposure, participation, internalization, and dissemination (Knutson, 2003). Therefore, experiential learning theory of Kolb might help professionals understand how learners acquire a language with Kolb's Learning Inventory which "recognizes the uniqueness, complexity, and variability in individual approaches to learning" with the explanation of Kolb (1981, p. 291)

Kolb's learning style inventory and experiential learning theory, based on Dewey's pragmatism, Kurt Lewin's social psychology, Piaget's cognitive development and Ruger's client-centered therapy (Kolb, 1984), was a research interest for many scholars such as John Dewey, Kurt Lewin, Jean Piaget, William James, Carl Jung, Paulo Freire, Carl Rogers and others as the theory gives experience a central role for learning. According to Kolb (1984, p. 38), "learning is the process whereby knowledge is created through the transformation of experience." In this sense, Kolb's Experiential Learning Theory, aiming to improve student learning (Healey & Jenkins, 2000), consists of four interdependent constructs: concrete experience (CE), reflective observation (RO), abs-

tract conceptualization (AC) and active experimentation (AE). CE refers to perceiving the world through direct experience, feelings and emotions. RO provides looking back on these experiences and reading between the lines. AC embodies the inferences to establish the meaning with experiences, and make arrangements for forthcoming situations. Lastly, AE involves testing the plan to actualize it. Furthermore, these four independent constructs are combined in two primary axes (AC-CE and AE-RO). AC-CE represents how we perceive and comprehend new information or experience, and AE-RO is about how we process and transform what we perceive (Smith & Kolb, 1986). Based on Kolb's learning styles analysis diagram with the sum of AC-CE and AE-RO, learning styles are defined as diverging, assimilating, converging and accommodating (see Figure 1). According to these styles, Kolb (1984, 1999) summarized research and clinical observations.

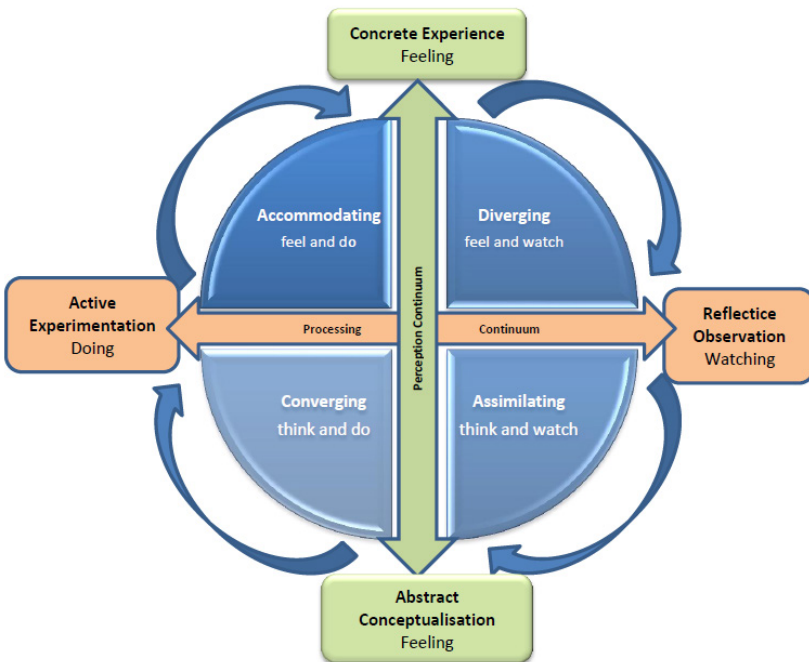


Figure 1. Brief Explanation of Learning Styles (revised from Kolb, 1999, p. 4).

Individuals with diverging style (CE-RO) for instance can think of a situation from many different viewpoints, so they can generate ideas and participate actively in brainstorming activities. They tend to be imaginative and emotional, have broad cultural interests and tend to specialize in arts. They also like to work in groups, listen to different views and receive feedback. Individuals, who internalize the second learning style, assimilating style (AC-RO), are good at understanding a group of information and putting it into concise and logical form. They are more interested in ideas and abstract concepts. They prefer readings, attending to classes, exploring analytical models, and

having time to think things through. For learners with converging style (AC-AE), practicality with ideas and theories is so important and as a result they are good at solving problems and taking decisions related to these problems. They like to experiment new ideas, simulations, laboratory assignments, and practical applications. As the last type of learners, individuals with accommodating style (CE-AE) use hands-on experience for learning. They use their feelings to perceive their environment concretely and learn by trying it (Hsu, 1999). They don't miss any opportunity to involve in new experiences whether they are challenging or not, so they are interested in working with others, doing field work and trying different ways to complete a project.

Relationship of proficiency, and learning styles and gender

Despite the great effort spent for foreign language education in Turkey, the proficiency level of students is low at higher education institutes. This disappointing issue brings up the importance of learning styles to the agenda for preparatory programs of universities. When 'learning' is considered as the enchanting word, there are studies focusing on learning styles and its relationship with academic performance and gender.

There are several other studies which have examined the relationship between learning styles and academic achievement in various age groups and disciplines. The results differ as the assessment types of studies vary from age to age and discipline to discipline. For instance, JilardiDamavandi, Mahyuddin, Elias, Daud and Shabani (2011) examined the impact of learning styles on the academic achievement of secondary school students. The results of variance analysis depicted that there was a statistically significant difference in the academic achievement of the Iranian students. The mean scores of converging and assimilating learners were higher than the diverging and accommodating groups. On the other hand, Lynch, Woelfl, Steele and Hansen (1998) studied the relationship between learning styles of medical students and examination performance, and found significant relationships between the variables.

In addition to the studies in different disciplines and age groups, many studies can be found at university level. In one of the studies, Can (2011) investigated the relationship between learning styles and gender for pre-service elementary teachers. Although there was no statistically significant difference between learning styles and gender, female and male participants had mostly assimilating learning style (%37,6 and %42,2 respectively) and converging learning style (%33,3 and %37,7). Similarly, Çelik and Şahin (2011) used Learning Style Inventory, and found no relationship between learning styles and gender for pre-service physical education teachers. In their study, male and female participants also had mostly assimilating and converging learning styles. The results of Bahar, Özen and Gülaçtı's study (2009) also indicated that there were no relationships between learning style, and gender and academic achievement. Therefore, this study corroborated with the results above in terms of the relationship between learning styles and gender of education faculty students. However, male and female participants had mostly converging and assimilating learning

styles respectively in this study.

To sum up, there have been many studies on the relationship of learning styles with gender and academic achievement, and these studies indicate different results in their natures. However, learning styles of the students who study in different contexts will contribute to the field as the results of the current study will have the attention of preparatory school administrators, teachers and students to the issue of how preparatory school students learn a foreign language.

2. Research Questions

It is an unquestionable issue that a country should explore and develop its methods of learning in order to meet the requirements in its own context (Yamazaki, 2005). Therefore, identifying learning styles of students might help instructors become more aware of their students' ways of learning and thus develop new methods to deal with difficulties. The students at English preparatory classes come from different departments, and the studies are very limited in preparatory schools. Nevertheless, learning style of these students may shed a light for foreign language instructors in terms of handling the situation from a different perspective. This study was designed to find answers to the following questions with Kolb's experiential learning theory.

1. What is the learning style distribution of preparatory class students studying at a state university in Turkey?
2. Are there any statistically significant differences in the proficiency test scores of preparatory class students across their learning styles and gender?

3. Method

Participants

A sample of 263 preparatory school students participated in the study. 127 (%48.3) of the participants were female and 136 (%51.7) of them were male. After this preparatory year, these students start their studies at different departments. The reason for selecting preparatory class students was twofold: many departments at Turkish universities (especially the English-medium ones) require their students to attend a preparation year before students start their education in their departments. Also, convenient sampling method was used as two of the researchers were employed at a preparatory school that offers a one-year English language education for the first year university students, and their students were also among the participants. The curiosity of the researchers to see how these English language learners prefer to learn gave rise to this study. The participation in the study was on a voluntary basis. The study started with the application of Learning Style Inventory (LSI) and was finalized through matching LSI scores with the final proficiency exam results of the preparatory school students.

Instruments

Kolb's self-report Learning Style Inventory (LSI) (Kolb, 1985) was adapted into Turkish by Aşkar and Akkoyunlu (1993). Although there are some new versions available, some studies in recent years (see Çelik, Yalçın, Gök Çatal, & Aydın, 2014; Çetin, 2014; Ekici, 2013) indicate that it is still one of the most prominent one in the literature. Furthermore, the copyright limitation of newer versions emerges as a limitation for a study without funding. Therefore, the current study made use of this version to assess the learning style of the participants. There were twelve short instruments for participants to rank four ending sentences according to their learning preference modes. First, we determined Concrete Experience (CE), Abstract Conceptualization (AC), Active Experimentation (AE) and Reflective Observation (RO) scores for each participant with this ranking. Having subtracted each student's CE scores from AC scores and RO scores from AE scores, we classified participants as 'accommodating', 'diverging', 'assimilating' and 'converging'. Other variables in the study were proficiency test scores and gender of the participants. The proficiency scores of the students were their final examination results. The final examination was a proficiency exam for English which tested all four skills and the scores were gained out of 100.

Data Collection and Analysis

For the analysis, the English proficiency test scores of the participants were compared to their learning styles which were classified according to Kolb's Learning Style Inventory (LSI). To analyze the data, the chi-square test, Cronbach's alpha reliability coefficients, and Spearman's correlation coefficient were run with the help of Statistical Packages for Social Sciences (SPSS 20.0 version for Windows).

4. Results and Discussion

To check the reliability of the LSI for the current study, some pre-analyses were carried out in the subsequent subheading. Then, as a precondition for the inventory, the correlation of bipolar dimensions in the inventory were checked based on the suggestion of the experiential learning theory of Kolb. After fulfilling the preconditions for the study, the chi-square tests were conducted to answer the research questions of the current study.

Learning style inventory scores

Having tested reliability of the scale for this study, Cronbach's alpha coefficients were found 0.70 for concrete experience (CE), 0.71 for reflective observation (RO), 0.68 for abstract conceptualization (AC) and 0.72 for active experimentation. For AC-CE and AE-RO bipolar dimensions, Cronbach's alphas were found as 0.69 and 0.72 respectively. As the alpha coefficients were higher than 0.6, the test had internal consistency for our study. The average raw scale scores and range values of the study group can be seen in Table 4.

Table 4. Learning style inventory scores of the students

	CE	RO	AC	AE	AC-CE	AE-RO
Mean (std.dev.)	36.14 (5.45)	27.12 (5.67)	29.49 (5.52)	27.38 (6.26)	-06.65 (9.08)	0.26 (10.36)
Range	18-46	13-42	12-62	13-46	-31 to 32	-25 to 27

Spearman's correlation analysis of learning styles dimensions

Spearman's correlation coefficients for the dimensions of learning styles were indicated in Table 5. Perceptual continuum (AC-CE) and processing continuum (AY-YG) of Kolb's learning cycle are bipolar dimensions. Therefore, experiential learning theory suggests that these bipolar dimensions should be uncorrelated. In our study, AC-CE and AE-RO were uncorrelated ($r = .038$) as seen in Table 5. According to Kolb and Smith (1986), AE-RO should not correlate with AC and CE dimensions, and AC-CE should not correlate with AE and RO dimensions. As can be seen in Table 5, AC-CE is uncorrelated with RO and AE dimensions, and AE-RO is uncorrelated with CE and AC dimensions. The correlations between four main dimensions are also negative.

Table 5. Spearman's correlation coefficients for the dimensions of learning styles

Learning Styles Dimensions	CE	RO	AC	AE	AC-CE	AY-YG
Concrete Experience (CE)	1					
Reflective Observation (RO)	-.235**	1				
Abstract Conceptualisation (AC)	-.363**	-.181**	1			
Active Experimentation (AE)	-.255**	-.540**	-.306**	1		
AC-CE	-.831**	.053	.789**	-.015	1	
AE-RO	-.018	-.869**	-.074	.874**	-.038	1

** $p < .01$

Learning styles of students (Research question 1)

The distribution of the learning styles across gender was determined by using the results of Learning Style Inventory (LSI) (see Table 3). In this study, the results of the chi-square test showed that learning styles and gender were independent ($p > .05$). These results were observed to corroborate with other studies in the literature (Bahar, Özen, & Gülaçtı, 2009; Coşkun & Yıldız-Demirtaş, 2015; Demir, 2008; Demirbas & Demirkan, 2007; Koçyiğit, 2011; Numanoğlu & Şen, 2007; Tuna, 2008; Yalız & Erişti, 2009). Although there was no significant difference between learning styles and gender, the most prevalent learning style was diverging ($n = 132$). According to disciplinary groupings of Cullen, Pearson, Saha, and Spear (1994), diverging learners are prone to learning English, and the proficiency score means of diverging learners ($M = 67.30$, std. dev. = 15.15) were higher than other learning styles in our study, too. There were also considerable number ($n = 92$) of accommodating learners but assimilating ($n = 21$) and converg-

ing ($n = 18$) learners were scant. The numbers of diverging and accommodating learners might underline the significance of these learning styles over others because of their prevalence and popularity among learners studying at university preparatory programs.

Table 3. Distribution of learning styles according to gender

	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Accommodating	43	31.6%	49	38.6%	92	35%
Diverging	74	54.4%	58	45.7%	132	50.2%
Assimilating	13	9.6%	8	6.3%	21	8%
Converging	6	4.4%	12	9.4%	18	6.8%
Total	136	100%	127	100%	263	100%

χ^2 : 5.22, df : 3, p : .156

Relationship of proficiency, learning styles and gender (Research question 2)

To determine whether there is a relationship between proficiency scores and gender, chi-square test of independence were conducted (see Table 6). To carry out the chi-square analysis, the proficiency scores of the students were converted to the categories based on the grading system of the participant university: 0-54 (unsuccessful), 55-69 (average), 70-84 (successful), and 85-100 (highly successful). When the proficiency scores of the students were the dependant variable, there was not statistically significant difference in terms of gender ($p = 0.62$). The mean scores of female and male students were 66.27 (ranging from 20 to 99) and 63.98 (ranging from 18 to 97) respectively. The proficiency scores showed that female's scores were higher than male's scores. In the literature, there are many studies which argue that female learners are more successful than male learners. For instance, the study of Bahar, Özen and Gülaçtı (2009) was the one which found that grade point averages (GPA) of female learners are higher.

Table 6. Chi-square test results of the relationship between gender and proficiency scores

		Proficiency of the students				Total
		1.00	2.00	3.00	4.00	
Female	Count	28	39	48	12	127
	% within gender	22.0%	30.7%	37.8%	9.4%	100.0%
	% within final	41.8%	52.0%	50.5%	46.2%	48.3%
Male	Count	39	36	47	14	136
	% within gender	28.7%	26.5%	34.6%	10.3%	100.0%
	% within final	58.2%	48.0%	49.5%	53.8%	51.7%

		Proficiency of the students				Total
		1.00	2.00	3.00	4.00	
Total	Count	67	75	95	26	263
	% within gender	25.5%	28.5%	36.1%	9.9%	100.0%
	% within final	100.0%	100.0%	100.0%	100.0%	100.0%

Secondly, according to the results of chi-square test in terms of the relationship between proficiency scores and learning styles (see Table 7), no statistically significant difference could be found ($p = 0.07$) between the two. While learning styles were not observed to influence academic achievement in some studies (Bahar, Özen, & Gülaçtı, 2009; Kılıç & Karadeniz, 2004), the relationship of learning styles and academic achievement was found to be statistically significant in some other studies (Peker, 2003). In the present study, no statistical difference between proficiency scores and learning styles was obtained, and the reason for that might be the differences in number of students with each learning style.

Table 7. Chi-square test results of the relationship between learning styles and proficiency scores

		Proficiency			
		1.00	2.00	3.00	4.00
Diverging	Count	23	46	49	14
	% within learning style	17.4%	34.8%	37.1%	10.6%
	% within final	34.3%	61.3%	51.6%	53.8%
Assimilating	Count	7	8	5	1
	% within learning style	33.3%	38.1%	23.8%	4.8%
	% within final	10.4%	10.7%	5.3%	3.8%
Converging	Count	8	3	6	1
	% within learning style	44.4%	16.7%	33.3%	5.6%
	% within final	11.9%	4.0%	6.3%	3.8%
Accommodating	Count	29	18	35	10
	% within learning style	31.5%	19.6%	38.0%	10.9%
	% within final	43.3%	24.0%	36.8%	38.5%
Total	Count	67	75	95	26
	% within learning style	25.5%	28.5%	36.1%	9.9%
	% within final	100.0%	100.0%	100.0%	100.0%

Nevertheless, the divergent learners in this study had higher scores from the final examination, and their proficiency mean scores were higher than others. To relate the results to the description of Willing (1987), diverging learners are familiar with orga-

nized and autocratic classes, and they learn a language to communicate with others. Another successful group was the accommodating learners who also want to learn a language for real-life use outside (Willing, 1987). Castro and Pack (2005) also stated that accommodating and diverging learners are more successful than converging and assimilating students in a language classroom. Therefore, it can be said that the learners who desire to use language outside for communication are more successful than the other type of learners. However, it should also be kept in mind that academic performance of students might change pursuant to the examination format and chosen assessment technique (Holley & Jenkins, 1993).

5. Conclusion

Considering the fact that cognitive styles of the students are still on the agenda (Li & Armstrong, 2015), the academic units in universities need to make learning style research an important aspect of the teaching and learning process (Wooldridge, 1995). In this regard, this study attempted to reveal learning styles of a group of English preparatory school students. Making students aware of their learning styles has so enormous benefits that they can utilize their performances based on their preferences (Reid, 2005). In this study, it was observed that the learning styles and gender of the students were independent as in many studies. Therefore, there is no need to relate gender to learning styles and find gender-based solutions for language learning. As another result, the mean scores of diverging and accommodating learners were higher than other learners. It can be concluded from the mean scores that the learners who consider language a communication tool achieve high level of language proficiency. This conclusion is also in line with the Willing's (1987) classification of students based on their learning styles. In this regard, diverging and accommodating learners, having a tendency in social studies and foreign languages, might provide a basis while preparing new curricula, developing new strategies and delivering courses effectively, and this inevitably requires an increased cooperation between teachers and students and a greater awareness of learner's learning styles.

On the other hand, it should not mean that there are only diverging or accommodating learners in classrooms. There should be different teaching methods and assessment techniques to be able to increase all students' academic performances. Otherwise, learners might experience difficulties if academic units do not recognize their learning styles and personality traits. If a student fails from a language course, there might be two reasons behind this (Castro & Pack, 2005). The student might be having general learning difficulties, or s/he might need a featured curricula based on his/her learning style. Considering these reasons, it can be concluded that learning styles of learners might have an effect on foreign language learning success. Conversely, the incongruities between learning styles and instruction might hinder the learning (Ehrman, 1996). What is advised is to employ adequate strategies to involve all learners in teaching and learning processes. To be able to achieve that, awareness-raising activities should be included in teacher training programs, and material design units of preparatory schools should be encouraged to prepare different kinds of materials for different kinds of learners (Oktay-Ergür, 2010). Providing all students with the preferred setting and support might be too much to expect from teachers (Woolfolk, Winne & Perry, 2003), but we can create ade-

quate environment for students to learn through different ways in different settings. For instance, accommodating and diverging learners like interacting with classmates and native speakers, or assimilating and converging learners regard language as an object and they like studying the language from textbooks. Therefore, communicative classroom activities should be designed for accommodating and diverging students to use the language as a communication tool, and the structures and grammar of a language should be given separately for assimilating and converging learners. It can also be a good idea to encourage learners for collaborative activities such as group work, because learners will be successful when they use language as a communication tool.

As a limitation and inspiration for the further research, the academic achievement of the participants in the current study was measured based on the final achievement test of the preparatory school. Different results might emerge if the academic achievement can be measured in a longitudinal study. Further studies might apply pre- and post-tests, and present the differences between these tests. However, in such a longitudinal study including the instruction process, it is highly suggested that the classroom materials should be designed according to the learning styles of the students.

6. References

- Aşkar, P., & Akkoyunlu, B. (1993). Kolb öğrenme stili envanteri. *Eğitim ve Bilim*, 17(87), 37-47.
- Bahar, H. H., Özen, Y., & Gülaçtı, F. (2009). An investigation on academic achievement and learning styles as to branches and gender from faculty of education students'. *Ankara University, Journal of Faculty of Educational Sciences*, 42(1), 69-86.
- Brandt, R. (1990). On the learning styles: A conversation with Pat Guild. *Educational Leadership*, 48, 10-12.
- Busato, V. V., Prins, F. J., Elshout, J. J., & Hamaker, C. (2000). Intellectual ability, learning style, personality, achievement motivation and academic success of psychology students in higher education. *Personality and Individual Differences*, 29(6), 1057-1068.
- Can, Ş. (2011). Investigation of the relationships between the learning styles of preservice elementary teachers and some variables. *H. U. Journal of Education*, 41, 70-82.
- Cassidy, S. (2004). Learning styles: An overview of theories, models, and measures. *Educational Psychology*, 24(4), 419-444.
- Castro, O., & Peck, V. (2005). Learning styles and foreign language learning difficulties. *Foreign Language Annals*, 38(3), 401-409.
- Clark-Thayer, S. (1987). The relationship of the knowledge of student perceived learning-style preferences, and study habits and attitudes to achievement of college freshmen in a small urban university. *Dissertation Abstracts International*, 48(04), 872A.
- Coşkun, N. & Yıldız-Demirtaş, V. (2015). The achievement and anxiety levels of secondary school students in Math lesson according to their learning styles. *K.Ü. Kastamonu Eğitim Dergisi*, 23(2), 549-564.
- Crystal, D. (2003). *English as a global language*. Cambridge: Cambridge University Press.
- Cullen, D. J., Pearson, M., Saha, L. J., & Spear, R. H. (1994). *Establishing effective PhD supervision*. Canberra: AGPS.
- Çelik, F., & Şahin, H. (2011). Beden eğitimi ve spor öğretmenliği öğretmen adaylarının cinsiyet ve öğrenim gördükleri sınıf düzeyleri bakımından öğrenme stillerinin incelenmesi (MAKÜ örneği). *Buca Eğitim Fakültesi Dergisi*, 31, 23-38.

- Çelik, F., Yalçın, R., Gök Çatal, Ö., & Aydın, A. (2014). Investigating the learning styles of pre-service teachers in terms of some variables. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, 32, 114-129.
- Çetin, M. Ç. (2014). Evaluation of the correlation between learning styles and critical thinking dispositions of the students of school of physical education and sports. *Educational Research and Reviews*, 9(18), 680-690.
- Demir, T. (2008). Learning styles of the Turkish teaching students: The case of Gazi University. *The Journal of International Social Research*, 1(4), 129-148.
- Demirbas, O. O., & Demirkan, H. (2007). Learning styles of design students and the relationship of academic performance and gender in design education. *Learning and Instruction*, 17, 345-359.
- Dörnyei, Z., & Skehan, P. (2003). Individual differences in second language learning. In C. J. Doughty & M. H. Long (Eds.), *The handbook of second language acquisition* (589-630). Oxford: Blackwell.
- Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Mahwah, NJ: Lawrence Erlbaum.
- Dunn, R., DeBello, T., Brenman, P., & Murrain, P. (1981). Learning style researchers define differences differently. *Educational Leadership*, 38(5), 372-375.
- Ehrman, M. E. (1996). *Understanding second language learning difficulties*. London: Sage Publications.
- Ekici, G. (2003). *Öğrenme stiline dayalı öğretim ve biyoloji dersi öğretimine yönelik ders planı örnekleri*. Ankara: Gazi Kitabevi.
- Ekici, G. (2013). The analysis of teacher candidates' learning styles in terms of gender and overall academic success according to Gregorc and Kolb learning style models. *Education and Science*, 38(167), 211-225.
- Ellis, R. (2004). Individual differences in language learning. In C. Elder & A. Davies (Eds.), *Handbook of applied linguistics* (525-551). Oxford: Blackwell.
- Field, A. (2009). *Discovering statistics using SPSS* (3rd edition). Dubai: Sage Publications.
- Genç, G. (2010). Hazırlık sınıfı öğrencilerinin öğrenme stillerinin çeşitli değişkenler açısından incelenmesi. *Atatürk Üniversitesi Kazım Karabekir Eğitim Fakültesi Dergisi*, 20.
- Graves, K. (2000). *Designing language courses: A guide for teachers*. Nelson: Heinle&Heinle Publishing.
- Harmer, J. (2001). *How to teach English: An introduction to the practice of English language teaching*. Malaysia: Pearson Education Limited.
- Healey, M., & Jenkins, A. (2000). *Kolb's experiential learning theory and its application in geography in higher education*. *Journal of Geography*, 99(5), 185-195.
- Holley, J. H., & Jenkins, E. K. (1993). The relationship between student learning style and performance on various test question formats. *Journal of Education for Business*, 68, 301-308.
- Hsu, C. H. C. (1999). Learning styles of hospitality students: Nature or nurture? *Hospitality Management*, 18, 17-30.
- JilardiDamavandi, A., Mahyuddin, R., Elias, H., Daud, S. M., & Shabani, J. (2011). Academic achievements of students with different learning styles. *International Journal of Psychological Studies*, 3(2), 186-192.
- Keefe, J. W. (1979). Learning style: An overview. In J. W. Keefe (Ed.), *Student learning styles: Diagnosing and prescribing programs* (1-17). Reston, VA. National Association of Secondary School Principals.
- Kılıç, E., & Karadeniz, Ş. (2004). *The effects of gender and learning style on navigation strategy and achievement*. *Gazi Eğitim Fakültesi Dergisi*, 24(3), 129-146.

- Knutson, S. (2003). Experiential learning in second-language classrooms. *TESL Canada Journal*, 20(2), 52-64.
- Koçyiğit, M. (2011). *Causal attributions and learning styles of university students*. (Unpublished MA dissertation). Afyon Kocatepe University, Afyon.
- Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education*, 4(2), 193-212.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Kolb, D. A. (1985). Learning style inventory: Self-scoring inventory and interpretation booklet, Boston: McBer and Company.
- Kolb, D. A. (1999). *Learning style inventory, version 3*. Boston, MA: Hay Group, Hay Resources Direct.
- Li, M., & Armstrong, S. J. (2015). The relationship between Kolb's experiential learning styles and Big Five personality traits in international managers. *Personality and Individual Differences*, 86, 422-426.
- Littlewood, W. (1984). *Foreign and second language learning*. Cambridge: Cambridge University Press.
- Lynch, T. G., Woelfl, N. N., Steele, D. J., & Hanssen, C. S. (1998). Learning style influences student examination performance. *The American Journal of Surgery*, 176(1), 62-66.
- Murray, D. E., & Christison M. (2011). *What English language teachers need to know* (Vol. 2, Facilitating learning). NY: Routledge.
- Nation, I. S. P., & Macalister, J. (2010). *Language curriculum design*. NY: Routledge.
- Numanoğlu, G., & Şen, B. (2007). Learning styles of university students attending department of computer and instructional technologies education. *KEFAD*, 8(2), 129-148.
- Oktar-Ergür, D. (2010). The effect of personal characteristics of the basic English students on their learning styles and its reflection on teaching process. *H. U. Journal of Education*, 39, 173-184.
- Peker, M. (2003). *Öğrenme stilleri ve 4 mat yönteminin öğrencilerin matematik tutum ve başarılarına etkisi*. (Unpublished doctoral dissertation). Gazi University, Ankara.
- Reid, G. (2005). *Learning styles and inclusion*. London: Paul Chapman Publishing.
- Ricento, T. (2010). Language policy and globalization. In N. Coupland (Ed.), *The handbook of language and globalization* (123-141). Singapore: Wiley-Blackwell.
- Richards, J. C. (2001). *Curriculum development in language teaching*. Cambridge: Cambridge University Press.
- Riding, R. (2000). Cognitive style: A review. In R. Riding & S. G. Rayner (Eds.), *Interpersonal perspectives on individual differences* (Vol. 1, Cognitive styles, pp. 315-344). Stamford, CT: Ablex.
- Rogers, T. (1978). Strategies for individualized language learning and teaching. In J. C. Richards (Ed.), *Understanding second & foreign language learning: Issues and approaches* (251-273). MA: Newbury House Publishers, Inc.
- Sawyer, M., & Ranta, L. (2001). Aptitude, individual differences, and instructional design. In P. Robinson (Ed.), *Cognition and second language acquisition* (319-353). NY: Cambridge University Press.
- Smith, D. M., & Kolb, D. (1986). *Users' guide for the learning style inventory: A manual for teachers and trainers*. Boston, MA: McBer & Company.
- Sternberg, R. J., & Grigorenko, E. L. (2001). A capsule history of theory and research on styles. In R. J. Sternberg & L.-F. Zhang (Eds.), *Perspectives on thinking, learning, and cognitive styles* (1-21). Mahwah, NJ: Lawrence Erlbaum Associates.

- Tuckman, B., Abry, D., & Smith, D. (2008). *Learning and motivation strategies* (2nded.). New Jersey: Pearson Education.
- Tuna, S. (2008). The learning styles of art education students. *Electronic Journal of Social Sciences*, 7(25), 252-261.
- Willing, K. (1987). Learning strategies as information control. *Prospect*, 2(3), 273-291.
- Wooldridge, B. (1995). Increasing the effectiveness of university/college instruction: Integrating the results of learning style research into course design and delivery. In R. R. Sims & Serbrenia J. Sims, *The importance of learning styles* (49-67). Westport, CT: Greenwood Publishing Company.
- Woolfolk, A. E., Winne, P. H., & Perry, N. E. (2003). *Educational Psychology* (2nd Canadian edition). USA: Pearson Education Canada Inc.
- Yalız, D., & Erişti, B. (2009). Learning styles of students in the department of physical education and sports teacher at Anadolu University. *Beden Eğitimi ve Spor Bilimleri Dergisi*, 4(4), 156-163.
- Yamazaki, Y. (2005). Learning styles and typologies of cultural differences: A theoretical and empirical comparison. *International Journal of Intercultural Relations*, 29, 521-548.
- Yılmaz, B. (2004). *Comparison and contrast of the learning styles of the prep class students and the teaching styles of the English teachers at some Anatolian high schools*. (Unpublished MA dissertation). Gazi University, Ankara.