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Perceptual Learning Style Preferences among Turkish Junior High School Students

Pınar Yeni Palabıyık*

ABSTRACT

Individuals may prefer to learn a language in various ways and there may be some factors that influence their ability to learn a foreign language. In this regard, research on learning styles may shed light on the possible reasons why there are differences on students' level of success in foreign language classroom. Thus, the present study examines the perceptual learning style preferences of Turkish high school students. The first aim of the study is to investigate whether the perceptual learning style preferences of the students vary in terms of gender and proficiency level. Second, this study intends to examine the relation between perceptual learning styles and language proficiency.

The study has a mixed-methods design, so Perceptual Learning Style Preferences Questionnaire was used to collect data and semi-structured interviews were conducted. Also, the respondents' language proficiency levels were elaborated via the results of the placement test. The population of the study includes high school English as Foreign Language students and the sample consists of one hundred 9th grade high school students.

The findings indicate that kinesthetic style is the most preferred followed by auditory and visual styles whereas group learning style is the least. Further, pre-intermediate level female students prefer visual style more than the elementary level females. Third, a statistically negative correlation between the respondents' perceptual learning style preferences and their language proficiency is found, but interview data reported positive influence of knowing preferred learning style on the foreign language achievement.

Gender and proficiency level may influence the learning style preferences, so language teachers should vary their teaching styles by considering the factors such as gender and proficiency level of their students. Additionally, recognizing the preferred learning style may positively help the language learner in the foreign language classroom, so language teachers may apply some instruments to the students in the beginning of the school year in order to reveal their preferred learning style and teachers should inform their students on this issue.

Keywords: Learning styles, English language proficiency, high school students.

* PhD Candidate, Middle East Technical University, Graduate School of Social Sciences, Department of Foreign Language Education, Ankara, Turkey. E-mail:pnaryeni@gmail.com

Lise 1. Sınıf Türk Öğrencilerinin Algısal Öğrenme Stili Tercihleri

ÖZ

Bireysel öğrenme farklılıklarının dil öğrenmeye etkisi olduğu pek çok uzman tarafından kabul edilen bir gerçektir. Öğrenme stilleri de yabancı dil öğrenimini etkileyen bireysel öğrenme farklılıklarından biridir. Bu çalışma Türk lise öğrencilerinin algısal öğrenme stili tercihlerini incelemektedir. Çalışmanın ilk amacı öğrencilerin algısal öğrenme stillerinin cinsiyet ve dil yeterliliği seviyesine göre değişiklik gösterip göstermediğini incelemektir. Ayrıca, bu çalışma algısal öğrenme stilleri ile dil yeterliliği arasındaki ilişkiyi de incelemeyi amaçlamaktadır.

Bu çalışmada karma-yöntem kullanılmıştır, yani veri toplamak için Reid (1987) tarafından geliştirilen Algısal Öğrenme Stili Tercihleri Envanteri kullanılmış ve yarı-yapılandırılmış görüşmeler uygulanmıştır. Ayrıca, öğrencilerin dil yeterlilik seviyesi seviye sınavı sonuçlarına göre belirlenmiştir. Çalışmanın evrenini İngilizceyi yabancı dil olarak öğrenen lise öğrencileri, örneklemini ise yüz tane 9. Sınıf lise öğrencisi oluşturmaktadır.

Nicel bulgular kinestetik stilin en çok tercih edilen stil olduğunu ve bunu işitsel ve görsel stilin takip ettiğini ancak grupla öğrenme stilinin en az tercih edilen stil olduğunu göstermiştir. Dahası görüşme verileri de bu nicel bulgular ile örtüşmekte ve özellikle grupla öğrenmenin en az tercih edilen stil olması konusunda gürültü, iletişim problemleri, grup içi sorumluluğun adil olmayışı gibi sebepler belirtilmektedir. Cinsiyet ve yabancı dil yeterliliğinin öğrenme stili tercihlerine etkisi incelendiğinde ise ara düzey kız öğrencilerin görsel stili temel düzey kız öğrencilerden daha fazla tercih ettikleri görülmüş ancak erkek öğrenciler arasında herhangi bir anlamlı fark bulunmamıştır. Son olarak, öğrencilerin algısal öğrenme stili tercihleri ile yabancı dil yeterliliği arasında istatistiksel açıdan negatif bir korelasyon bulunmuştur. Ancak görüşme verileri bu bulgunun tam tersini göstermektedir. Yani algısal öğrenme stilini bilmenin motivasyonu ve derse katılımı arttırdığı, konuyu daha iyi anlamayı sağladığı gibi olumlu etkileri ortaya konmuş, sonuç olarak yabancı dil yeterliliğini olumlu anlamda etkilediği belirlenmiştir.

Bu çalışma cinsiyet ve yabancı dil yeterlilik seviyesinin öğrenme stili tercihlerini etkileyebileceğini göstermektedir, bu yüzden yabancı dil öğretmenleri bu etkenleri göz önüne alarak öğretme stillerini çeşitlendirmelidir. Ayrıca, nicel veriler öğrenme stili tercihi ile yabancı dil yeterliliği arasında olumsuz bir ilişki olduğunu göstermesine rağmen görüşme verileri öğrenme stili tercihini bilmenin yabancı dil başarısını olumlu yönde etkileyeceğini göstermiştir. Bu bağlamda, yabancı dil öğretmenleri ders yılı başında öğrencilerini öğrenme stili tercihleri hakkında bilgilendirmeli, mümkünse çeşitli anketler uygulayarak öğrencilerin tercih ettikleri stili fark etmelerine yardımcı olmaları gerekmektedir.

Anahtar Sözcükler: Öğrenme stilleri, İngilizce dil yeterliliği, lise öğrencileri.

INTRODUCTION

Research on learning styles is initially conducted in the area of psychology. Recently, it has been examined in many other domains such as management, industry and education (Cassidy, 2004). As predicted, numerous scholars in the area of second language learning accept the influence of individual learner differences such as learning styles on the rate and degree of achievement for second language learning (Ellis, 1985; Williams & Burden, 1997).

Dörnyei (2005) simply explains the learning styles as "different learners can approach the same learning in quite different ways and it is also a logical assumption that this variation in approach is not infinite but is characterized by systematic patterns" (p.122). More specifically, Reid (1987) considers 'perceptual' learning styles as "a term that describes the variations among learners in using one or more senses to understand, organize and retain experience" (p.89). She further groups perceptual learning styles into six categories named as visual (prefer seeing something to learn), auditory (prefer listening something to learn), kinesthetic (prefer whole-body motion), tactile (prefer hands-on activities), group (prefer studying with others) and individual (prefer studying on their own) (Reid, 1998).

It may be more fruitful to speak of the basic features of learning styles. Notably, being modifiable has been accepted as one of the most recent features of learning style preferences mainly because the term has recently been acknowledged as the ways people learn or difference in preferences rather than intrinsic abilities (Yılmaz, 2004). As regards to ambiguity, Cassidy (2004) argues that learning-style research has been conducted in many different disciplines such as management, industry and vocational training, so it is not limited to the scope of psychology which may somewhat explain the rationale behind the ambiguous nature of learning styles. When the context-dependent feature of learning styles is focus of attention, Naserieh & Anani Sarab (2013) suggest that "the way information is perceived, processed and stored varies across individuals and is influenced by heredity, environment and past experiences" (p.124).

With respect to learning style preferences, it can be noted that even if people do have some dominant learning styles, it doesn't mean that they cannot learn by using other styles. Instead, it means that they learn more effectively when the learning activity is presented in line with their dominant style. To add further to the stress, Montgomery (1995) notes that when the information is presented in an individual's preferred way of learning, he/she can learn more effectively and this is the main reason why there is a need for exploring different learning styles. In this sense, Castro and Peck (2005) theorize that none of the styles are better than others, but a student possessing kinesthetic learning style may experience difficulty when he/she comes across an instruction delivered by abstract or auditory information.

Arguably, Reid (1987) reveals that learners with different cultural backgrounds report different preferences for perceptual styles. Simply, a study by Tabanlıoğlu (2003) investigates the relation between learning styles and language learning strategies of Turkish university students and the study reveals that auditory and individual learning are the major learning style preferences for the current sample. In Greek research, Psaltou-Joycey and Kantaridou (2011) study learning style

preferences of university students, and they reveal visual style as the major preference, whereas auditory is the negative learning style for the respondents. From their analysis of the questionnaires, Isemonger and Sheppard (2003) explore that South Korean English as a Foreign Language (EFL) students prefer kinesthetic, auditory and tactile styles whereas individual learning style is not favored at all.

Additionally, learning styles may present variation with respect to factors such as age and gender. In this respect, a recent study by Naserieh and Anani Sarab (2013) report significant gender differences for individual and group learning styles; that is, females disfavor individual style whereas group style is not preferred by males. However, Riazi and Mansoorian (2008) investigate the issue of learning styles in the same context and the authors note that females disfavor group learning when compared with males. Even though both studies are conducted in Iranian context, the ages of the participants are different which may lead to the variation in learning style preferences; university students are the participants of the former study, yet the sample for the latter one is high school students.

Specifically speaking, Cassidy (2004) theorizes that the growing interest in the impact of learning styles on academic achievement means that there is a change in the research paradigm from focusing on traditional variables like motivation to examining the factors influencing academic success. However, research studies on perceptual learning styles and language proficiency report controversial findings; put another way, some studies report no relation (e.g., Naseriah & Anani Sarab, 2013; Isemonger & Sheppard, 2003; Reid, 1987), yet some others report significant correlation (Komarraju, Karau, Schmeck & Avdic, 2011; Jhaish, 2010; Drysdale, Ross & Schulz, 2001). Namely, a recent study by Komarraju et al. (2011) reveal that both personality traits and learning styles contribute to academic performance. Likewise, Jhaish (2010) investigates the relation between learning styles and academic achievement among English majors in Iran, the findings show significant correlation between achievement test and total degree of style. In a similar fashion, Drysdale et al. (2001) specifically study the impact of learning style on the academic performance, and the results signify learning style as a significant factor on 11 out of 19 courses' academic achievement.

A small body of literature looks into the match between teaching styles, materials, methods and learning styles of the students (Bidabadi & Yamat, 2010; Hargadon, 2010; Pashler, McDaniel, Rohrer & Bjork, 2008; Stevenson & Dunn, 2001). Namely, Stevenson and Dunn (2001) theorize that some learners may succeed in learning the simple information although there may be a mismatch between their learning styles and the learning materials used in the instruction, yet those students will learn effectively if the materials are appropriate to their learning styles. According to Hargadon (2010), teachers should consider their students' learning differences, and due to these differences, they should use different teaching methods in order to increase their students' performance in learning. In support of this claim, Bidabadi and Yamat (2010) emphasize the match between teaching style and the learning style of the students. In slight contrast, Pashler et al. (2008) criticize the idea of matching teaching styles to learning styles by claiming lack of empirical support for such a notion. The authors further note that everybody has some potential to learn and they have their own preferences for study, so instead of focusing on the match

between teaching methods and learning styles, strategies that may enhance learning should be investigated.

Extending from this perspective, it can be purely claimed that some factors may influence someone's ability to learn a foreign language. Doubtless, students prefer to learn in various ways; however, most of the teachers provide a limited way of instruction which may cause some students to be regarded as low achievers in the foreign language classroom. In this regard, research on learning styles may throw light on the possible reasons why there are differences on students' level of success in foreign language classroom; thereby, the present study mainly aims to examine the relation between perceptual learning style preferences and foreign language proficiency of high school students.

Based on the literature above, it is hoped that factors such as gender and language proficiency may affect the learning style preferences of high school EFL students and there will be a correlation between their learning style preferences and language proficiency. In addition, Reid (1987) notes that identifying non-native speakers' learning style preferences may have numerous implications due mainly to the fact that English as a second language (ESL) students are in need of spending time and effort to get used to the new learning situations. To that end, the following research questions are formulated:

1. What are the language learning styles of Turkish high-school students?
2. Do gender and proficiency level influence the perceptual learning style preferences of the current sample?
3. Is there any relationship between perceptual learning styles and language proficiency test scores of Turkish high school students?

METHOD

The present study applied "mixed-methods sequential explanatory design" (Ivankova, Creswell & Stick, 2006). Defined in this way, it means "collecting and analyzing first quantitative and then qualitative data in two consecutive phases within one study" (Ivankova et al., 2006). Namely, the present study conducted "questionnaire survey with follow-up interview" (Dörnyei, 2007). More specifically, DeCapua and Wintergerst (2005) suggest the use of multiple methods to collect data for learning styles rather than relying purely on Likert-scale questionnaires. Thus, the present study shed a deeper light on style research by combining quantitative data with qualitative one.

Participants

A total of one hundred and seven 9^{th} grade students participated in the quantitative part of the study, yet data from seven students were omitted mainly because six of them did not participate in the proficiency exam. Also, one student's data was omitted because she was born in the target country, so her placement test score was exceptionally high causing the data to be an outlier. The students' age was between 14 and 15. 60 students were male, 40 were female. All the respondents were students at Anatolian High school in Sakarya province. Of all the 100 participants,

interviews with 8 volunteer students were conducted after getting the results for the quantitative data, 3 of them were females while 5 of them were males.

Instruments

Perceptual Learning Style Preference Questionnaire (PLSPQ) developed by Reid (1987) was chosen for the present study as it is specifically designed to investigate language learners rather than originating from general psychology. As a quantitative self-report questionnaire, PLSPQ consists of 30 items to examine learners' learning style preferences in two main categories named as perceptual learning style and social. Perceptual learning style preferences category includes visual, auditory, kinesthetic and tactile preferences while group and individual learning styles form the social category of the instrument. The questionnaire was administered in Turkish and it was a five-point Likert-scale questionnaire. The Turkish translation and piloting of the instrument was developed by Yılmaz (2004) and the cronbach's alpha value was .82.

Dörnyei (2007) notes that 'internal consistency reliability' as "the psychometric prerequisite for any multi-item scale in a questionnaire that is to be used as a research instrument" (p.206). Extending from this perspective, Cronbach alpha values were calculated not only for the whole scale but also for each sub factor. In this sense, alpha coefficient of .62 confirmed that the instrument was fairly reliable ($0.60<a<0.80$). However, when the alpha values for each sub-factor were examined, it was revealed that alpha coefficient for auditory style was .33 indicated that the items for this part of the questionnaire were not reliable ($0.00<a<0.40$), and the reliability for the visual style was low as the cronbach alpha value was .42 ($0.40<a<0.60$). However, alpha coefficients of .61, .69, and .80 verified that the sub-factors named kinesthetic, tactile, group and individual styles of the instrument was moderately reliable ($0.60<a<0.80$). The Cronbach's alpha values for PLSPQ are as follows;

Table 1. Cronbach's alpha values for PLSPQ

Visual	.42
Auditory	.33
Kinesthetic	.61
Tactile	.69
Group	.80
Individual	.80
PLSPQ	.62

Also, the placement test results were used to determine the proficiency level of the students. The placement test consisted of 60 multiple-choice questions in three areas named as grammar, vocabulary and reading. Each question was 1 point, so 0-25 meant elementary level, the points between 26 and 38 indicated pre-intermediate level and points above 39 meant upper-intermediate level. Finally, a total of 5 Semi-structured interview questions developed by DeCapua and Wintergerst (2005) were used to collect the qualitative data, two of these questions were formulated by the researcher.

Procedures

PLSPQ was filled by the participants in November, 2013. Also, the respondents' language proficiency levels were elaborated via the results of the placement test applied in the beginning of the 2013-2014 education year. In this regard, the students were grouped according to their placement test results; two groups occurred elementary (N=87) and pre-intermediate (N=13).

Statistical Package for Social Sciences (SPSS) version 20 was used to analyze the quantitative data. First, the descriptive statistics were discovered, and then a 2 x 2 full-factorial ANOVA was run to examine the second research question. Pearson correlation was used to respond the third question as a last resort. After getting the initial findings, interviews with 8 students were conducted in December, 2013. The interviews were recorded and pseudonyms were given to each participant. Both the PLSPQ and semi-structured interview questions were applied in Turkish as the students' foreign language proficiency level was not sufficient to get coherent results.

RESULTS

This part of the study is concerned with the evaluation of the findings which were attained by dint of questionnaire and interview. The first research question aimed to reveal perceptual learning style preferences of high school students. Initially, the Kolmogorov-Smirnov test did not indicate that the distribution of PLSPQ was non-normal ($p>.05$). Table 2 reports the descriptive statistics for the perceptual learning style preferences of Turkish high school students.

Table 2. Descriptive statistics for perceptual learning style preferences

	N	Mean	SD
Visual style	100	3.79	.60
Auditory style	100	3.86	.57
Kinesthetic style	100	3.89	.71
Tactile style	100	3.65	.80
Group style	100	3.20	.95
Individual style	100	3.50	.99
Overall PLSP	100	3.65	.34

Clearly, kinesthetic style (M= 3.89, SD= .71) was the most preferred learning style followed by auditory (M= 3.86, SD= .57) and visual (M=3.79, SD= .60) styles respectively. In this respect, interview data showed that auditory and visual styles were preferred together; so to speak, Erdem stated that "I used to prefer only auditory style when I was in secondary school because the topics were easy then, but the courses are difficult in high school, so I want to use both visual and auditory styles in order to learn the subject." Similarly, Gökhan remarked that "I prefer visual style because when I see the pictures related to the topic, I can remember it better later on. And I prefer auditory style because I like hearing the native speakers' accent."

However, group learning style (M= 3.20, SD= .95) was the least preferred style for the Turkish junior high school students. The reason why group style was preferred the least examined by interview data. The results indicated that students did

not like group learning style mainly because of noise, communication problems, and unbalance in responsibility and getting confused. One student put it this way: "I don't like studying in group because everybody makes noise". Another said, "I prefer to study with a pair instead of group because when there are more people, there is more noise and the topic gets complex".

The second research question intended to investigate the influence of gender and proficiency level on perceptual learning style preferences of the participants. Therefore, a 2 x 2 full-factorial ANOVA examining the effects of gender and proficiency level on the participants' perceptual learning style preferences found a statistical effect for the interaction between gender and proficiency level on the visual learning style preference of the respondents only ($F(1,96) = 3.962$, $p=.049$, partial eta squared= .040, power = .50). The pairwise comparisons revealed that there was a significant difference between pre-intermediate and elementary level females ($p=.047$). Females whose level was pre-intermediate ($M=4.18$, $SD=60$, $N=8$) preferred visual style more than the females in elementary group ($M=3.70$, $SD=.65$, $N=32$). The difference between male students in elementary group ($M=3.81$, $SD=.51$, $N=55$) and those in pre-intermediate group ($M=3.56$, $SD=1.07$, $N=5$) was nonsignificant ($p=.370$). No further main effect or interactions were found.

The last research question was concerned with the correlation between perceptual learning style preferences and proficiency test scores of the respondents. Hence, table 3 illustrates the correlation between the sub-factors of perceptual learning styles and proficiency test scores of Turkish high school students.

Table 3. Correlation for perceptual learning style preferences and proficiency test scores

	N	Pearson r	Sig. (2-tailed)
Visual Style & Individual Style	100	.378**	.000
Kinesthetic Style & Auditory Style	100	.214*	.032
Kinesthetic Style & Tactile Style	100	.459**	.000
Kinesthetic Style & Group Style	100	.321**	.001
Group Style & Individual Style	100	-.602**	.000
Perceptual Learning Style & Proficiency Test Score	100	-.204*	.041

*p<.05 **p<.01

As is seen in the table above, there was a strong correlation between visual and individual learning styles $r(98) = .378$, $p < .01$; kinesthetic and auditory learning styles $r(98) = .214$, $p < .05$; kinesthetic and tactile learning styles $r(98) = .459$, $p < .01$; and kinesthetic and group learning styles $r(98) = .321$, $p < .01$. Specifically speaking, interview data supported the positive relation between visual and individual learning styles. That is to say, most students preferred to use visual and individual style all together. As for the reasons for preferring visual style, remarks such as ease of recall, easy to understand, the positive contribution of pictures were noted. For instance, Şeyda said "I can revive the visual material in my mind easily and by this way I can remember the topic better when I study on my own." Additionally, Helin said, "I prefer to learn by watching videos and taking notes on my own because I believe I learn better by this way."

However, the relation between group and individual learning styles was negative $r(98) = -.602$, $p < .01$. To address this dichotomy, interview data was used. The

respondents noted that issues such as calmness, less noise and understanding the topic better on their own as the reason why they preferred individual style rather than the group. Namely, Salim remarked that "I used to like working in groups when I was in secondary school, yet I do not like it anymore because some of my friends give all the responsibility to me, so I like studying individually instead of group." Likewise, Gökhan stated that "I like studying individually but I used to like group work when I was in secondary school. When I study in groups, my mind gets confused as I have new friends in my class and their ideas are totally different from me." Last, Şeyda claimed that "if others interfere with me while I'm studying, I cannot understand the subject, so I prefer individual style."

Additionally, the average score among the participants on the English language proficiency test was 19.15 (SD=5.90). The highest scoring participant obtained 33 and the lowest scoring obtained 8 (maximum score possible=60). Perceptual learning style preferences of the students correlated negatively with their test scores for language proficiency $r\ (98) = -.204$, $p < .05$. Quite the reverse, interview data indicated the positive impact of language learning styles on language achievement. In this regard, matters such as increase in motivation and class participation, understanding the subject better and knowing what to do and how to do were signified. To give an example, Şeyma put it this way: "of course it affects my achievement. Instead of learning a subject with a technique that I don't like, I can understand better when I learn with a technique that I like because I feel that I learn the subject, and it increases my motivation." Salim said, "it influences me positively; for example, I come to the board more comfortably and I participate in the activities more." Semih stated that "it affects me positively because I know what to do and how to do while I'm studying for my courses." Interestingly, Erdem noted that "as I know my learning style, I require the teacher to instruct the topic in this way, then I learn better and it increases my achievement."

DISCUSSION

The findings of this study purely illustrated that kinesthetic style was the most preferred learning style followed by auditory and visual styles respectively whereas group learning was the least preferred one. Interview data clarified the reason why group learning was the least preferred style; so to speak, the matters such as communication problems, unbalance in responsibility, heavy noise and getting confused were noted. On a similar line to the findings of this study, Seifoori and Zarei (2011) found kinesthetic learning style as the most dominant among Iranian EFL learners. Furthermore, Peacock (2001) investigated learning style preferences of 206 university students in Hong Kong. The results revealed preference for kinesthetic and auditory styles whereas group and individual learning styles were disfavored by the participants. Likewise, a study by Riazi and Mansoorian (2008) indicated less preference for group and individual learning styles. Nevertheless, Chen (2009) revealed strong preference for group learning style among Taiwanese junior high school students.

Namely, the present study indicated strong positive correlation between individual and visual styles, kinesthetic and tactile styles, kinesthetic and auditory

styles. On a similar line, Wintergerst and DeCapua (2001) investigated Russian-speaking students' learning style preferences and the findings indicated kinesthetic and auditory styles as the most preferred ones respectively. In terms of kinesthetic and tactile styles, research by Reid (1987) evaluated perceptual learning style preferences of EFL students from various nationalities and she found strong major preference for kinesthetic and tactile learning styles. Moreover, Yılmaz (2004) examined Turkish high school students' learning style preferences and she found high perceptual strength for kinesthetic and tactile styles. In the same vein as Yılmaz (2004)'s study, Jhaish (2010) examined Iranian university students' learning style preferences and found major preference for kinesthetic and tactile styles.

Close to the end, this study examined the influence of gender and proficiency level on perceptual learning style preferences of the respondents and the findings revealed that pre-intermediate level female students preferred visual style more than the elementary level females. Diverse lines of research results indicated mixed findings with respect to gender differences (Tabatabaei & Mashayekhi, 2013; Bidabadi & Yamat; 2010; Jhaish, 2010; Tabanlıoğlu, 2003). Initially to mention, Tabatabaei and Mashayekhi (2013) examined Iranian high school students' learning style preferences and revealed that gender did not influence the learning style preferences. In what follows, Bidabadi and Yamat (2010) examined learning style preferences of 92 Iranian university students and the authors noted no significant difference between male and female students. By contrast, Tabanlıoğlu (2003) investigated the learning style preferences of university students and the findings demonstrated significant gender difference for the tactile learning style. Furthermore, Jhaish (2010) found significant gender differences for some styles; that is to say, females favored visual, auditory and individual learning, but males preferred group learning.

Finally yet importantly, the quantitative findings of this study indicated a negative correlation between perceptual learning style preferences and proficiency test score; on the other hand, the interview data reported a positive influence of knowing the preferred learning style on the language proficiency. As noted earlier, the respondents notified points such as increase in motivation and class participation, knowing what to do and how to do, understanding the subject better. To address this dichotomy, Castro and Peck (2005) examined the learning styles and learning difficulties that college level foreign language students face. The authors argued that the learning style preferred by the student can either help or ban achievement in the foreign language classroom.

CONCLUSION

The main aim of this study was to investigate the learning styles preferred by junior high school students, whether there were any differences in their style preferences according to gender and proficiency level were also examined. Last, the relation between learning style preferences and English language proficiency test score was issued. The findings of the study first signified that kinesthetic was the most preferred style followed by auditory and visual styles respectively, yet group learning was the least preferred style due mainly to communication problems, noise,

getting confused and so forth. Second, pre-intermediate level female students preferred visual style more than the elementary level females. Third, there was a negative correlation between perceptual learning style preference and English language test score, but the interview data indicated a positive relation such as increasing motivation and class participation, understanding subjects better and so on.

This study has a number of limitations which need to be addressed in future research. First, the sample of the present study only includes the students in an Anatolian high school of Sakarya province, so a logical next step would be to investigate the learning style preferences of the students in different types of schools such as vocational high school, secondary school and private schools. Specifically speaking, Chen (2009) investigated the correlation between grade level and perceptual learning style preferences of junior high school students in Taiwan and found significant relations; thus, a further study may well investigate the relation between grade level and perceptual learning style preferences of high school students in local context. Finally yet importantly, the present study only reported the reliability estimates of PLSPQ. By contrast, Isemonger (2012) examined the psychometric weakness of perceptual learning style questionnaire and argued that reporting Cronbach's alpha values was not sufficient and she suggested the use of confirmatory factor analysis (CFA) for the instrument to prevent poor instrumentation. Therefore, another dimension which may further inform the body of knowledge on perceptual learning style preferences may be the use of CFA as well as reporting reliability estimates.

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