

GAZİ UNIVERSITY
INSTITUTE OF EDUCATIONAL SCIENCES
DEPARTMENT OF ENGLISH LANGUAGE TEACHING

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

M.A. THESIS

By

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ABSTRACT

Individual differences among language learners, such as their learning style preferences, began to interest many researchers in the field of foreign language education. Factors like language aptitude, motivation, learning strategies and so forth are some of the individual differences that have been studied. Similarly, the learning style movement has been the focus of foreign language education.

According to the advocates of the learning style approach, learning style represents each person's biologically and experientially induced characteristics that either foster or hinder achievement. Learning styles are also learner's natural, habitual, and preferred ways of learning.

Elements that learners strongly prefer are their strengths. To be more precise, when the learners are taught through their strengths, it is easier for them to absorb and retain information. At this point it is necessary to note the significance of teaching style. It is reported by many researchers that merely following a particular method does not always insure that adequate teaching is being conducted. As students learn in many ways, teaching methods also vary. There are many ways of teaching the same content. Some teachers do it verbally, others do it visually, others experientially, and others tactually.

This study was conducted with Anatolian High School preparatory class students, who are offered full-time intensive language training, and with their teachers, who are teaching English to the target group of students. After identifying the learning and teaching styles of the target groups, the results are compared and discussed. Furthermore, a teaching style inventory was distributed to English teachers in Anatolian High Schools to examine their teaching methods or techniques, shortly their teaching styles from a broader aspect.

The statistical analysis of the data, obtained from the perceptual learning style and perceptual teaching style questionnaire, indicate that there is a significant relationship between students' learning styles and their teachers' teaching style in terms of perceptual modalities. Therefore, it is concluded that the perceptual teaching styles of the teachers matched to the perceptual learning styles of the students. Nevertheless, the teaching style inventory, which was administered to a larger group of teachers at Anatolian High Schools, indicates that the teachers do not tend to focus on students' individual differences and learning styles sufficiently. Most of them do not tend to diagnose the elements that their students prefer while they are learning a new subject. Therefore, most of them are unaware of their students' individual strengths. Furthermore, one of the remarkable results is that teachers do not vary their teaching repertoire with different teaching methods, techniques, and materials in order to address to the learners' differences.

ÖZET

Öğrencilerdeki bireysel farklılıklar son yıllarda, her alanda olduğu gibi yabancı dil öğretimi alanındaki birçok araştırmacının ilgi odağı olmuştur. Öğrencilerin dil öğrenimindeki yetenekleri, motivasyonları, tutumları, öğrenme stratejileri gibi birçok faktör, üzerinde çalışılan bireysel farklılıklardan birkaçıdır. Aynı şekilde öğrenme stili yaklaşımı da öğrencilerin öğrenme düzeylerini etkileyen bireysel farklılıklardan biri olarak kabul edilip, araştırmacılar öğrenme stiline göre eğitim/öğretim yapılması gerektiği konusunda ortak fikir belirtmişlerdir.

Öğrenme stili kavramı, birçok araştırmacıya göre, bireylerin öğrenme çevrelerini nasıl algıladıklarının, öğrenme çevresiyle nasıl etkileşime girdiklerinin ve çevrelerine nasıl tepkide bulunduklarının göstergeleri olarak işlev gören bilişsel, işlevsel, duyuşsal ve fizyolojik özelliklerinin bir bütünü olarak tanımlanmıştır.

Bu alandaki birçok araştırmacıya göre, öğrencilerin öğrenme stillerine göre uygulanan bir eğitim/öğretim, öğrencilerin başarılarını arttırmakta, okula ve öğrenmeye karşı tutumlarını iyileştirmektedir. Bu nedenle öğretmenlerin tek ve belirli bir metodu izlemektense, her öğrenciye hitap edecek şekilde metot ve tekniklerini çeşitlendirmeleri gerekmektedir.

Bu araştırmanın amacı, Ankara merkez ilçelerine bağlı Anadolu Liseleri hazırlık sınıflarında okuyan öğrencilerin öğrenme stillerini ve bu öğrencilerin öğretmenlerinin öğretme stillerini belirlemek; aynı zamanda bu iki bulgu arasındaki benzerlikleri ve farkları ortaya çıkarmaktır.

Toplam altı okulda yapılan bu çalışmanın bulguları daha sonra frekans, yüzde, ortalama ve standart sapma hesaplamaları yapılarak detaylı olarak tartışılmıştır. Sonuçlara göre, öğrencilerin çoğunlukla kinestetik/bedensel öğrenme stiline sahip oldukları, fakat diğer öğrenme stillerinin de ortalamalarının yüksek çıktığı gözlemlenmiştir. Dolayısıyla, elde edilen sonuçlar ışığında öğrencilerin tek bir stile bağlı olarak öğrenmek yerine, öğretim metotlarının, tekniklerinin ve materyallerinin zengin ve çeşitli olarak kendilerine sunulduğu bir .dil öğretimini tercih ettikleri ortaya çıkmıştır. Her ne kadar öğrencilerin algısal öğrenme stillerinin ve öğretmenlerinin algısal öğretme stillerinin uyduğu belirlense de, biraz önce ifade edilen öğrencilerin öğrenme stillerine hitap eden öğretim metotları ve teknikleri, materyalleri bakımından zengin ve çeşitli bir öğrenme ortamı olmadığı altı okulda genel olarak yapılan öğretme stili envanteri sonuçları doğrultusunda saptanmıştır. Altı okulda toplam 45 İngilizce öğretmenine sunulan öğretme stili envanteri sonucunda öğretmenlerin genellikle öğrencilerinin öğrenme stillerini ve bireysel farklılıklarını tanımaya yönelik bir çalışmada bulunmadıklarını, öğrencilerinin nasıl öğrendiğinden ziyade ne öğrendikleriyle daha fazla ilgilendikleri, öğretim metotlarını ve sınıfta kullandıkları materyalleri gerektiği kadar çeşitlendirmedikleri saptanmıştır.

Eđitim Bilimleri Enstitüsü M¼d¼rl¼đ¼'ne

Burçak Yılmaz'a ait "Anadolu Liseleri Hazırlık Sınıflarında okuyan öğrencilerin öğrenme stilleriyle, İngilizce öğretmenlerinin öğretme stillerinin karşılaştırılması " adlı çalışma jürimiz tarafından Yabancı Diller Eğitimi Anabilim dalında YÜKSEK LİSANS TEZİ olarak kabul edilmiştir.

Başkan.....

Prof. Dr. Abdulvahit ÇAKIR

Üye.....

Doç. Dr. Gülsev PAKKAN

Üye.....

Yrd. Doç. Dr. Abdullah ERTAŞ

ABSTRACT

Individual differences among language learners, such as their learning style preferences, began to interest many researchers in the field of foreign language education. Factors like language aptitude, motivation, learning strategies and so forth are some of the individual differences that have been studied. Similarly, the learning style movement, which evolved from previous research on various theories in relation with individual learner differences such as personality trait, information processing, and aptitude-treatment interaction, has been the focus of foreign language education. According to the advocates of the learning style approach, learning style represents each person's biologically and experientially induced characteristics that either foster or hinder achievement. Learning styles are also learner's natural, habitual, and preferred ways of learning. Reid (1987), whose point of view to learning styles is used in this study, defines learning styles of language learners as 'the perceptual variations among learners in using one or more senses to understand, organize and retain experience' (p. 89).

Elements that learners strongly prefer are their strengths. To be more precise, when the learners are taught through their strengths, it is easier for them to absorb and retain information. The researchers in the field have reported consistently positive results indicating that teaching through learner's strengths increase academic achievement, and improve attitudes toward school. At this point it is necessary to note the significance of teaching style. It is reported by many researchers that merely following a particular method does not always insure that adequate teaching is being conducted. As students learn in many ways, teaching methods also vary. There are many ways of teaching the same content. Some

teachers do it verbally, others do it visually, others experientially, and others tactually. All approaches are considered to be effective, but not for the same students.

This study was conducted with Anatolian High School preparatory class students, who are offered full-time intensive language training, and with their teachers, who are teaching English to the target group of students. One of the purposes of this study is to find out the perceptual learning styles of preparatory students and perceptual teaching styles of their teachers. After identifying the learning and teaching styles of the target groups, the results are compared and discussed. Furthermore, a teaching style inventory was distributed to English teachers in Anatolian High Schools to examine their teaching methods or techniques, shortly their teaching styles from a broader aspect. The other purpose of this study is to find out whether the teachers vary their instruction according to students' individual differences and learning styles or not. The results are striking. The statistical analysis of the data, obtained from the perceptual learning style and perceptual teaching style questionnaire, indicate that there is a significant relationship between students' learning styles and their teachers' teaching style in terms of perceptual modalities. Therefore, it is concluded that the perceptual teaching styles of the teachers matched to the perceptual learning styles of the students. Nevertheless, the teaching style inventory, which was administered to a larger group of teachers at Anatolian High Schools, indicates that the teachers do not tend to focus on students' individual differences and learning styles sufficiently. Most of them do not tend to diagnose the elements that their students prefer while they are learning a new subject. Therefore, most of them are unaware of their

students' individual strengths. Furthermore, one of the remarkable results is that teachers do not vary their teaching repertoire with different teaching methods, techniques, and materials in order to address to the learners' differences.

ÖZET

Öğrencilerdeki bireysel farklılıklar son yıllarda, her alanda olduğu gibi yabancı dil öğretimi alanındaki birçok araştırmacının ilgi odağı olmuştur. Öğrencilerin dil öğrenimindeki yetenekleri, motivasyonları, tutumları, öğrenme stratejileri gibi birçok faktör, üzerinde çalışılan bireysel farklılıklardan birkaçıdır. Aynı şekilde öğrenme stili yaklaşımı da öğrencilerin öğrenme düzeylerini etkileyen bireysel farklılıklardan biri olarak kabul edilip, araştırmacılar öğrenme stiline göre eğitim/öğretim yapılması gerektiği konusunda ortak fikir belirtmişlerdir.

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Bu araştırmada tanımlarına, öğrenme stilleri modeline ve konuya bakış açısına ayrıntılı olarak değinilen Dunn ve Dunn'a (1993) göre, öğrenme stili her bireyde farklılık gösteren, bireyin yeni ve zor bilgi üzerine konsantre olması ile başlayan, bilgiyi alma ve zihne yerleştirme süreci ile devam eden bir kavramdır

(p.2). Benzer şekilde Reid'a (1987) göre, dil öğrencilerinin öğrenme stilleri, anlama, organize etme ve bilgiyi zihne yerleştirme için kullandıkları algısal yöntemleridir (p.89).

Bu alandaki birçok araştırmacıya göre, öğrencilerin öğrenme stillerine göre uygulanan bir eğitim/öğretim, öğrencilerin başarılarını arttırmakta, okula ve öğrenmeye karşı tutumlarını iyileştirmektedir. Bu nedenle öğretmenlerin tek ve belirli bir metodu izlemektense, her öğrenciye hitap edecek şekilde metot ve tekniklerini çeşitlendirmeleri gerekmektedir.

Bu araştırmanın amacı, Ankara merkez ilçelerine bağlı Anadolu Liseleri hazırlık sınıflarında okuyan öğrencilerin öğrenme stillerini ve bu öğrencilerin öğretmenlerinin öğretme stillerini belirlemek; aynı zamanda bu iki bulgu arasındaki benzerlikleri ve farkları ortaya çıkarmaktır. Toplam altı okulda yapılan bu çalışmanın bulguları daha sonra frekans, yüzde, ortalama ve standart sapma hesaplamaları yapılarak detaylı olarak tartışılmıştır. Sonuçlara göre, öğrencilerin çoğunlukla kinestetik/bedensel öğrenme stiline sahip oldukları, fakat diğer öğrenme stillerinin de ortalamalarının yüksek çıktığı gözlemlenmiştir. Dolayısıyla, elde edilen sonuçlar ışığında öğrencilerin tek bir stile bağlı olarak öğrenmek yerine, öğretim metotlarının, tekniklerinin ve materyallerinin zengin ve çeşitli olarak kendilerine sunulduğu bir .dil öğretimini tercih ettikleri ortaya çıkmıştır. Her ne kadar öğrencilerin algısal öğrenme stillerinin ve öğretmenlerinin algısal öğretme stillerinin uyuştugu belirlense de, biraz önce ifade edilen öğrencilerin öğrenme stillerine hitap eden öğretim metotları ve teknikleri, materyalleri bakımından zengin ve çeşitli bir öğrenme ortamı olmadığı altı okulda genel olarak yapılan öğretme stili envanteri sonuçları doğrultusunda saptanmıştır. Altı okulda toplam 45 İngilizce öğretmenine sunulan öğretme stili envanteri sonucunda öğretmenlerin genellikle öğrencilerinin öğrenme stillerini ve bireysel farklılıklarını tanımaya yönelik bir çalışmada bulunmadıklarını, öğrencilerinin nasıl öğrendiğinden ziyade ne öğrendikleriyle daha fazla ilgilendikleri, öğretim metotlarını ve sınıfta kullandıkları materyalleri gerektiği kadar çeşitlendirmedikleri saptanmıştır.

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Finally, I would like to express my gratitude to my family who provided me with love, tolerance, and invaluable support throughout my life.

APPENDIX 1

ÖĞRENCİ ANKETİ

Ad Soyad:

Tarih:

Yaş:

Erkek:

Kız:

Okul:

1. Oturduğunuz İlçe:

2. Ne kadar süredir İngilizce öğreniyorsunuz?

3. Günlük hayatınızın bir parçası olarak İngilizce'yi nerede ve ne kadar kullanıyorsunuz? (okulda, evde....

4. Ortaokulda en sevdiğiniz ders hangisiydi?

Matematik

Türkçe

Tarih

Coğrafya

Beden

Eğitimi

İngilizce

Diğer(leri)

5. Sizce İngilizce öğrenmeye neden ihtiyaç vardır?

AÇIKLAMALAR:

Aşağıda yer alan her cümleyi dikkatlice okuyunuz. Sizin öğrenme stillerinize yönelik olduğundan lütfen her soruyu yanıtlayınız. Cümlelere katılıp katılmadığınıza karar verdikten sonra her cümlemin karşısında yer alan boşluklara size göre doğru olan seçeneğe işaret koyunuz.Örneğin, **kesinlikle katılıyorsanız**,cevap kağıdınıza aşağıdaki gibi işaretleyiniz.

Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
(X)				

Lütfen her soruya çok fazla düşünmeden çabuk cevap veriniz.İşaretledikten sonra cevaplarınızı değiştirmemeye özen gösteriniz.Lütfen bütün soruları yanıtlayınız. Cevaplarınız için tükenmez kalem kullanınız. Katkılarınız için teşekkürler.

Burçak YILMAZ

Gazi Üniversitesi Yadöm

ÖĞRENME STİLLERİ ÖĞRENCİ ANKETİ

	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
1. Öğretmenim bana bir aktiviteden önce ne yapacağımı sözlü olarak anlatırsa daha iyi anlıyorum.					
2. Sınıfta bir aktiviteyi yaparak ya da aktivitede etkin olarak öğrenmeyi tercih ederim.					
3. Diğer öğrencilerle çalıştığımda daha verimli çalışıyorum.					
4. Öğretmenim öğretirken tahtayı kullandığında daha iyi öğreniyorum.					
5. Sınıf içerisinde en iyi diğer öğrencilerle çalıştığımda öğreniyorum.					
6. Sınıf içersisinde okuduğum bilgiden çok duyduğum/işittiğim bilgiyi daha iyi hatırlıyorum.					
7. Eğer sınıfta birisi bana bir problem/soru ya da aktiviteyle ilgili ne yapacağımı ve nasıl yapacağımı açıklarsa daha iyi öğreniyorum.					
8. Sınıfta bir şeyler yaptığımda daha iyi öğreniyorum.					
9. Bir grupla çalıştığımda daha çok şey öğreniyorum.					
10. Bir aktivite ya da sorudan önce o aktiviteyle ilgili talimatları okuduğumda daha iyi aklımda kalıyor.					
11. Bir şeyin modelini yapabildiğimde daha iyi öğreniyorum.					
12. Öğretilmek istenen bilgiyi bizzat kendim görerek ve okuyarak daha iyi öğreniyorum.					
13. Tek başıma çalıştığımda çalıştıklarım daha iyi aklımda kalıyor.					
14. Sınıf projesi olarak bir şeyler hazırladığımda (şiir ve kompozisyonlar için bir pano, saatleri öğrenmek ya da pratik etmek için bir duvar saati, kıyafetleri öğrenmek için moda kataloğu gibi....) çok daha fazla şey öğrenirim.					
15. Sınıfta deney yaparak daha iyi öğrenirim.					

16. Çalışırken çizim yaptığımda daha iyi öğreniyorum. (Çalıştığım konuyla ilgili tablo veya şema çizmek gibi ya da hayvan isimlerini öğrenmek için hayvan figürleri çizmek gibi...)					
17. Öğretmenim konuyu yazarak değil de sözlü olarak anlattırsa daha iyi öğreniyorum.					
18. Yalnız çalıştığımda daha verimli çalışıyorum.					
19. Drama ya da rol-oynama çalışmalarında yer aldığımda, konuyu daha iyi anlıyorum.					
20. Öğretmenimi ya da arkadaşlarımı söz aldıklarında dinlerken daha iyi öğreniyorum.					
21. İki veya daha fazla sınıf arkadaşım ile bir konu ya da ödev üzerinde çalışmaktan çok hoşlanıyorum.					
22. Bir şey inşa ettiğimde ya da yarattığımda öğrendiğim şey daha iyi aklımda kalıyor.(Örneğin evin odalarını öğreneceğiniz bir konu için kartondan bir ev inşa etmek ya da diyalog çalışması için kullanılan kukla (kağıt, bez, çorap, tahta gibi) yapımı)					
23. Yalnız çalışmaktansa grupta çalışmayı tercih ederim.					
24. Birisini dinlemekten ziyade okuyarak daha iyi öğreniyorum.					
25. Sınıf projesi olarak bir şeyler yapmaktan zevk duyarım.					
26. Sınıfta en iyi öğrendiğim konuyla ilgili aktivitelerde yer aldığımda öğreniyorum.					
27. Sınıfta bireysel çalışma yaptığımda daha iyi çalışıyorum.					
28. Bir konunun anlatımını dinlemekten çok ders kitaplarımı okuduğumda çok daha fazla şey öğreniyorum.					
29. Proje ödevleriyle grup çalışmasından ziyade kendim uğraşmayı tercih ederim.					
30. Her konuda kendim çalışmayı tercih ederim.					

APPENDIX 2

TEACHING STYLE QUESTIONNAIRE

Teaching Experience : _____ years.

Date:

School:

DIRECTIONS

Students learn in many different ways. For example, some learn primarily with their eyes (visual learners) or with their ears (auditory learners); some people prefer to learn by experience and/or by 'hands-on' tasks (kinesthetic or tactile learners); some people learn better when they work alone, and others prefer to learn in groups.

Similarly, teachers teach in many different ways, some of them appeal to their students' eyes or ears; some others prefer to have the students involved in various tasks that require experience and experiment.

This questionnaire has been designed to help you identify the ways you *prefer* to teach.

Read each statement on the following pages. Please respond to the statements **as they apply to your ways of teaching English**. Decide whether you agree or disagree with each statement. For example, if you **strongly agree**, mark on your answer sheet:

strongly agree (SA)	agree (A)	undecided (U)	disagree (D)	strongly disagree (SD)
(X)				

Please respond to each statement quickly, without too much thought. Try not to change your responses after you choose them. Please answer all the questions and use a pen to mark your choices.

PERCEPTUAL TEACHING STYLE QUESTIONNAIRE

	SA	A	U	D	SD
1. I explain the new subject by giving lectures to whole class.					
2. I like students to be active, e.g. role play, action games.					
3. When the students are learning the new subject, I want them to build something in class. For example, a house to teach the rooms, a clock to practice telling the time...)					
4. I use to touch things. E.g. handouts and objects.					
5. Students learn the new subject by reading than by listening to me.					
6. I give assignments to groups of 2 or 3 students.					
7. I use visual aids, pictures, drawings and diagrams.					
8. I ask students to make drawings when they study.					
9. I give the instructions in a written form before an activity.					
10. I want the students to work alone in the class.					
11. Before an activity I give instructions orally					
12. I demand the students to make class projects.					
13. I prefer a class atmosphere where students prefer work and interact with others.					
14. When I teach a new subject, I ask the students to participate in related activities.					
15. I think individual studying is a way to learn better.					
16. I think students benefit more by making something for a class project.					
17. I create the opportunity for students to experiment the newly learned subject in class.					
18. I talk a lot in the class instead of using the blackboard and comment when learners are speaking "Mm, ah.."					
19. I use the blackboard while presenting the new subject.					
20. I use class discussion, question and answer.					
21. I think that students do more work when they study with others.					
22. I use lots of actions, gestures, and demonstrations.					

	SA	A	U	D	SD
23. I demand students to work on their own to learn more efficiently.					
24. I make students study in groups of 3-8.					
25. I like beautiful posters and colored pens.					
26. In order to make things clear, I want students to work alone.					
27. I like students to ask questions so he/she can speak.					
28. I let the students study on an assignment with two or more classmates.					
29. I prefer students to work on tasks or projects by themselves.					
30. When learning a new subject I want the students to make a model of something.					

APPENDIX 3

TEACHING STYLE INVENTORY

School:

Experience:..... years.

Please read the statements carefully and respond to them without too much thought because it gives an idea about your teaching methods, techniques and style.

DIRECTIONS:

Circle the number that best describes how often you use each of the following planning techniques.

Columns of number from **left** to **right** represent:

- **Never Rarely Occasionally Frequently Always**

Question 1: Instructional Planning

	Never	Rarely	Occasionally	Frequently	Always
a. I find out each student's individual differences, needs and interests	1	2	3	4	5
b. I teach to whole class rather than groups of 3-8.	5	4	3	2	1
c. I apply multisensory teaching in class. (teaching according to visual, auditory, kinesthetic, tactile learners)	1	2	3	4	5
d. I do creative activities according to students' interests, intelligences and learning styles.	1	2	3	4	5
e. I use programmed materials.	1	2	3	4	5
f. I give small-group assignments in class.	1	2	3	4	5
g. I use task cards or games in class.	1	2	3	4	5
h. I have objectives varied for students' interests, intelligences and learning styles.	1	2	3	4	5
i. I apply team learning in class.	1	2	3	4	5
j. I use role-playing or simulations in class.	1	2	3	4	5
k. I do brainstorming before an activity.	1	2	3	4	5
l. Students design their own studies.	1	2	3	4	5

DIRECTIONS:

Circle the number that best describes how often you use each of the following teaching methods.

Question 2: Teaching Methods

	Never	Rarely	Occasionally	Frequently	Always
a. I give lectures to whole class.	5	4	3	2	1
b. My students learn the new information by teacher demonstration.	5	4	3	2	1
c. I form small groups while I'm teaching.	1	2	3	4	5
d. I make use of media (films, tapes, etc.)	1	2	3	4	5
e. Students do class discussion about a subject.	5	4	3	2	1
f. I make individualized diagnosis for each student and teach accordingly.	1	2	3	4	5

DIRECTIONS:

Circle the number that best describes how often you use each of the following groupings.

Question 3: Teaching Environment

	Never	Rarely	Occasionally	Frequently	Always
Question 3.1: Student Groupings					
a. I form several small groups (3-8 students) while teaching.	1	2	3	4	5
b. Students study in pairs in class.	1	2	3	4	5
c. I give independent study assignments/Students work alone in class.	1	2	3	4	5
d. Students have one-to-one interaction with the teacher in class.	1	2	3	4	5
e. I teach to two or more of the above groupings at one time.	1	2	3	4	5
f. I teach to one large group (entire class).	5	4	3	2	1

DIRECTIONS:

Circle the number that best describes how often you use each of the following classroom designs.

Question 3.2: Room Design

	Never	Rarely	Occasionally	Frequently	Always
a. Students sit in rows while I'm teaching in class.	5	4	3	2	1
b. Students sit in groups of 3-8 people in class.	1	2	3	4	5
c. Students learn in learning stations or interest centers. *	1	2	3	4	5
d. I teach at different areas to motivate the students.	1	2	3	4	5
e. I teach to individuals or small groups (2-4) students rather than whole class.	1	2	3	4	5
f. I make three or more of the above arrangements at the same time.	1	2	3	4	5

DIRECTIONS:

Circle the number that best describes your present instructional environment.

Question 3.3 Teaching Environment

	Never	Rarely	Occasionally	Frequently	Always
a. I change the teaching environment (e.g. places of desks) for different, simultaneous activities.	1	2	3	4	5
b. Nutritional intake is available for all students as needed. (Students eat or drink something in the class if they need.)	1	2	3	4	5
c. Teaching environment is designed according to different groups that need to talk or interact during an activity.	1	2	3	4	5
d. Varied time schedules are in use for individuals.	1	2	3	4	5
e. Students are permitted to choose where they will sit and/or work.	1	2	3	4	5
f. Many multisensory resources are available in the classroom for use by individuals and groups. (Pictures, film charts, audiotapes, videotapes etc.)	1	2	3	4	5
g. Alternative arrangements are made for mobile, active, or overly talkative students. (Some students cannot work actively during a class hour or sit still for a long time.)	1	2	3	4	5

***learning stations** are self study rooms where students deal with different components of language. **Interest centers** are similarly self study centers where students can work on their interests such as football, music, fashion.....

DIRECTIONS:

Circle the number that best describes you as a teacher.

Question 4: Teaching Characteristics

	Never	Rarely	Occasionally	Frequently	Always
I tend to be....					
a. Concerned with how students learn (learning style)	1	2	3	4	5
b. Demanding-with high expectations based on individual ability	1	2	3	4	5
c. Evaluative of students as they work	1	2	3	4	5
d. Concerned with how much students learn	1	2	3	4	5
e. Concerned with what students learn (concerned with the curriculum)	1	2	3	4	5
f. Lesson plan oriented	1	2	3	4	5
g. Authoritative to reach group objectives (identical/same objectives, lessons or assignments for every student in the same class)	1	2	3	4	5

DIRECTIONS:

Circle the number that best describes your attitude toward each of the following approaches and concepts.

Question 5: Educational Philosophy

	Never	Rarely	Occasionally	Frequently	Always
a. Open education without a class atmosphere	1	2	3	4	5
b. Diagnostic-prescriptive teaching (diagnosing students interests, individual differences and learning styles, then preparing the lesson according to their needs)	1	2	3	4	5
c. Multiage groupings	1	2	3	4	5
d. Matched teaching and learning styles	1	2	3	4	5
e. Student-centered curriculum	1	2	3	4	5
f. Humanistic Education	1	2	3	4	5
g. Independent Study	1	2	3	4	5
h. Individualized teaching	1	2	3	4	5
i. Traditional Education	5	4	3	2	1
j. Whole-class education	5	4	3	2	1
k. Teacher- dominated instruction/teaching	5	4	3	2	1

APPENDIX 4

T.C.
ANKARA VALİLİĞİ
Milli Eğitim Müdürlüğü

BÖLÜM: Kültür

SAYI : B.08.4.MEM.4.06.00.11.070/646 / 1979

KONU : Anket Uygulaması

26.1.2/2004

GAZİ ÜNİVERSİTESİNE
(Eğitim Bilimleri Enstitüsü)

İLGİ: 17.02.2004 tarih ve 1390 sayılı yazınız.

Üniversiteniz, Eğitim Bilimleri Enstitüsü'nün, Yabancı Diller Eğitimi Anabilim Dalı, İngilizce Öğretmenliği Bilim Dalı Yüksek Lisans Programı Öğrencisi Burçak YILMAZ'ın.. olurda isimleri belirtilen okullarda anket uygulaması yapabilmesinin, uygun görüldüğüne ilişkin, 25.02.2004 tarih ve 615 sayılı Valilik Oluru ekte gönderilmiştir.

Bilgilerinize arz ederim.


Erol ORTAKAYA
Müdür a.
Milli Eğitim Müdür Yardımcısı

EKLER :

Olur (1 Adet)



T.C.
ANKARA VALİLİĞİ
Milli Eğitim Müdürlüğü

BÖLÜM: Kültür
SAYI : B.08.4.MEM.4.06.00.11.070/ 615
KONU : Anket uygulaması

25.12/2004

VALİLİK MAKAMINA
ANKARA

İLGİ: Gazi Üniversitesi Eğitim Bilimleri Enstitüsü'nün 17.02.2004 tarih ve 1390 sayılı yazısı.

Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü'nün Yabancı Diller Eğitimi Anabilim Dalı, İngilizce Öğretmenliği Bilim Dalı Yüksek Lisans Programı Öğrencisi Burçak YILMAZ'ın, "Anadolu Liseleri Hazırlık Sınıflarında Okuyan Öğrencilerin Öğrenme Stilleriyle, Öğretmenlerin Öğretme Stillerinin Karşılaştırılması" konulu tezi ile ilgili olarak aşağıda isimleri belirtilen ilimiz okullarında anket uygulaması yapılabilmesi için ilgi yazı ile izin istenmektedir.

Kamu Kurum ve Kuruluşlarında uygulanan Devlet Memurları Kılık-Kıyafet Yönetmeliği ve Okullarda uyulması gereken usul ve esaslara özen gösterilmesi, 2003-2004 öğretim yılında olması kaydıyla, söz konusu istek Müdürlüğümüzce uygun görülmektedir.

Makamlarınızca da uygun görüldüğü takdirde olurlarınıza arz ederim.

Erol ORTAKAYA
Müdür a.
Milli Eğitim Müdür Yardımcısı

OLUR
25.12/2004

Hakkı LOGOĞLU
Vali a.
Vali Yardımcısı

UYGULAMA YAPILACAK OKULLAR :

- 1-Çankaya Atatürk Anadolu Lisesi
- 2- " Anadolu Lisesi
- 3- " Mehmet Emin Resulzade Anadolu Lisesi
- 4- " Hacı Ömer Tarman Anadolu Lisesi
- 5-Yenimahalle Atatürk Anadolu Lisesi
- 6- " Gazi Anadolu Lisesi
- 7-Etimesgut Anadolu Lisesi

APPENDIX 5



T.C.
ANKARA VALİLİĞİ
Çankaya İlçe Milli Eğitim Müdürlüğü

07 MART 2004

BÖLÜM : KÜLTÜR
SAYI : 070/ 10727
KONU : Anket Uygulaması

..... MÜDÜRLÜĞÜNE

Gazi Üniversitesi Eğitim Bilimleri Enstitüsü'nün, Yabancı Diller Eğitimi Anabilim Dalı İngilizce Öğretmenliği Bilim Dalı Yüksek Lisans Programı Öğrencisi Burçak YILMAZ'ın, ek onayda isimleri belirtilen okullarda anket uygulaması yapabilmesinin uygun görüldüğüne ilişkin 25.02.2004 tarih ve 070615 sayılı Valilik Oluru ekte gönderilmiştir.

Valilik Oluru gereğince işlem yapılmasını rica ederim.

EK: 1 Valilik Oluru


Yaşar KOÇAK
Müdür a.
Şube Müdürü



T.C.
ANKARA VALİLİĞİ
Milli Eğitim Müdürlüğü

BÖLÜM: Kültür
SAYI : B.08.4.MEM.4.06.00.11.070/ 615
KONU : Anket uygulaması

25.12/2004

VALİLİK MAKAMINA
ANKARA

İLGİ: Gazi Üniversitesi Eğitim Bilimleri Enstitüsü'nün 17.02.2004 tarih ve 1390 sayılı yazısı.

Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü'nün Yabancı Diller Eğitimi Anabilim Dalı, İngilizce Öğretmenliği Bilim Dalı Yüksek Lisans Programı Öğrencisi Burçak YILMAZ'ın, "Anadolu Liseleri Hazırlık Sınıflarında Okuyan Öğrencilerin Öğrenme Stilleriyle, Öğretmenlerin Öğretme Stilllerinin Karşılaştırılması" konulu tezi ile ilgili olarak aşağıda isimleri belirtilen ilimiz okullarında anket uygulaması yapabilmeleri için ilgi yazı ile izin istenmektedir.

Kamu Kurum ve Kuruluşlarında uygulanan Devlet Memurları Kılık-Kıyafet Yönetmeliği ve Okullarda uyulması gereken usul ve esaslara özen gösterilmesi, 2003-2004 öğretim yılında olması kaydıyla, söz konusu istek Müdürlüğümüzce uygun görülmektedir.

Makamlarınızca da uygun görüldüğü takdirde olurlarınıza arz ederim.

Erol ORTAKAYA
Müdür a.

Milli Eğitim Müdür Yardımcısı

OLUR
25.12/2004

Hakkı LOGOĞLU
Vali a.
Vali Yardımcısı

UYGULAMA YAPILACAK OKULLAR :

- 1-Çankaya Atatürk Anadolu Lisesi
- 2- " Anadolu Lisesi
- 3- " Mehmet Emin Resulzade Anadolu Lisesi
- 4- " Hacı Ömer Tarman Anadolu Lisesi
- 5-Yenimahalle Atatürk Anadolu Lisesi
- 6- " Gazi Anadolu Lisesi
- 7-Etimesgut Anadolu Lisesi

APPENDIX 6

T.C.
ANKARA VALİLİĞİ
Etimesgut İlçe Milli Eğitim Müdürlüğü

BÖLÜM :Kültür
SAYI : 02-070/ 554
KONU : Anket

05.03.2004

ANADOLU LİSESİ MÜDÜRLÜĞÜNE

İLGİ:Ankara Valiliği Milli Eğitim Müdürlüğünün 26.02.2004 tarih ve 645/1976 sayılı yazısı.

Gazi Üniversitesi Eğitim Bilimleri Enstitüsü Yabancı Diller Eğitimi Anabilim, İngilizce Öğretmenliği Bilim Dalı Yüksek Lisans Programı öğrencisi Burçak YILMAZ'ın okulunuzda anket-uygulaması yapabilmesine ilişkin ilgi yazı ekinde alınan 25.02.2004 tarih ve 615 sayılı Valilik Oluru ekte gönderilmiştir.

Bilgilerinizi ve gereğini rica ederim.

Dursun YILMAZ
İlçe Milli Eğitim Müdürü a.
Şube Müdürü

Ek: 1

Mem:M.AKCA
Şef :H.UZUNOK



T.C.
ANKARA VALİLİĞİ
Milli Eğitim Müdürlüğü

BÖLÜM: Kültür
SAYI : B.08.4.MEM.4.06.00.11.070/ 615
KONU : Anket uygulaması

25.12/2004

VALİLİK MAKAMINA
ANKARA

İLGİ: Gazi Üniversitesi Eğitim Bilimleri Enstitüsü'nün 17.02.2004 tarih ve 1390 sayılı yazısı.

Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü'nün Yabancı Diller Eğitimi Anabilim Dalı, İngilizce Öğretmenliği Bilim Dalı Yüksek Lisans Programı Öğrencisi Burçak YILMAZ'ın, "Anadolu Liseleri Hazırlık Sınıflarında Okuyan Öğrencilerin Öğrenme Stilleriyle, Öğretmenlerin Öğretme Stillerinin Karşılaştırılması" konulu tezi ile ilgili olarak aşağıda isimleri belirtilen ilimiz okullarında anket uygulaması yapılabilmesi için ilgi yazı ile izin istenmektedir.

Kamu Kurum ve Kuruluşlarında uygulanan Devlet Memurları Kılık-Kıyafet Yönetmeliği ve Okullarda uyulması gereken usul ve esaslara özen gösterilmesi, 2003-2004 öğretim yılında olması kaydıyla, söz konusu istek Müdürlüğümüzce uygun görülmektedir.

Makamlarınızca da uygun görüldüğü takdirde olurlarınıza arz ederim.

Erol ORTAKAYA
Müdür a.
Milli Eğitim Müdür Yardımcısı

OLUR
25./02/2004

Hakkı LOGOĞLU
Vali a.
Vali Yardımcısı

UYGULAMA YAPILACAK OKULLAR :

- 1-Çankaya Atatürk Anadolu Lisesi
- 2- " Anadolu Lisesi
- 3- " Mehmet Emin Resulzade Anadolu Lisesi
- 4- " Hacı Ömer Tarman Anadolu Lisesi
- 5-Yenimahalle Atatürk Anadolu Lisesi
- 6- " Gazi Anadolu Lisesi
- 7-Etimesgut Anadolu Lisesi

APPENDIX 7

T.C.
ANKARA VALİLİĞİ
Yenimahalle İlçe Milli Eğitim
Müdürlüğü

BÖLÜM: Kültür

SAYI : B.08.4.MEM.4.06.08.05.11.070/4796

KONU : Anket Uygulaması

02 Mart 2004

İLGİLİ OKUL MÜDÜRLÜKLERİNE

Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü'nün Yabancı Diller Eğitimi Anabilim Dalı İngilizce Öğretmenliği Bilim Dalı Yüksek Lisans programı öğrencisi Burçak YILMAZ'ın olurda isimleri belirtilen ilçemiz okullarında anket uygulaması yapabilmesinin uygun görüldüğüne ilişkin Valilik Makamından alınan 25.02.2004 tarih ve 615 sayılı olur ilişkide gönderilmiştir.

Valilik oluru gereğince işlem yapılmasını rica ederim.

Eki:1-Valilik Oluru

Yunus ERDOĞAN
Müdür a.
Şube Müdürü



T.C.
ANKARA VALİLİĞİ
Milli Eğitim Müdürlüğü

BÖLÜM: Kültür
SAYI : B.08.4.MEM.4.06.00.11.070/ 615
KONU : Anket uygulaması

25.12/2004

VALİLİK MAKAMINA
ANKARA

İLGİ: Gazi Üniversitesi Eğitim Bilimleri Enstitüsü'nün 17.02.2004 tarih ve 1390 sayılı yazısı.

Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü'nün Yabancı Diller Eğitimi Anabilim Dalı, İngilizce Öğretmenliği Bilim Dalı Yüksek Lisans Programı Öğrencisi Burçak YILMAZ'ın, "Anadolu Liseleri Hazırlık Sınıflarında Okuyan Öğrencilerin Öğrenme Stilleriyle, Öğretmenlerin Öğretme Stillерinin Karşılaştırılması" konulu tezi ile ilgili olarak aşağıda isimleri belirtilen ilimiz okullarında anket uygulaması yapabilmesi için ilgi yazı ile izin istenmektedir.

Kamu Kurum ve Kuruluşlarında uygulanan Devlet Memurları Kılık-Kıyafet Yönetmeliği ve Okullarda uyulması gereken usul ve esaslara özen gösterilmesi, 2003-2004 öğretim yılında olması kaydıyla, söz konusu istek Müdürlüğümüzce uygun görülmektedir.

Makamlarınızca da uygun görüldüğü takdirde olurlarınıza arz ederim.

Erol ORTAKAYA
Müdür a.
Milli Eğitim Müdür Yardımcısı

OLUR
25.12/2004

Hakkı LOGOĞLU
Vali a.
Vali Yardımcısı

UYGULAMA YAPILACAK OKULLAR :

- 1-Çankaya Atatürk Anadolu Lisesi
- 2- " Anadolu Lisesi
- 3- " Mehmet Emin Resulzade Anadolu Lisesi
- 4- " Hacı Ömer Tarman Anadolu Lisesi
- 5-Yenimahalle Atatürk Anadolu Lisesi
- 6- " Gazi Anadolu Lisesi
- 7-Etimesgut Anadolu Lisesi

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 Introduction

A particular approach to instruction might work for all of the students some of the time, and it might work for some of the students all of the time, but no instructional approach will work for all of the students all of the time.

The above quotation from Abraham Lincoln, paraphrased and presented by Deno (1990) summarizes the reasons why second language learning research concerns have shifted from methods of teaching to learner characteristics and their possible effects on the process of learning (p.160). Recently educators have realized that every method or technique has its advantages and disadvantages, and will be effective depending on many factors, including individual differences among students being taught. Realizing the fact that some learners learn better or faster, even within the same environment, and that there is no single way of effectively teaching everybody, educational researchers have shifted their focus to the learner.

Many ELT teachers have faced students who favor sitting in the classroom and study their grammar books whereas other students favor participating in communicative activities, group work and games. Some students usually prefer to ask questions to the teacher during the exercises since they don't want to sit silently and do the exercise. In spite of these conflicts, teachers are aware that students have their own learning style preferences although they have similar, even identical backgrounds, ages, and purposes belong to the same class for a long time.

Individual differences among language learners, such as their learning style preferences began to interest educational researchers in recent years. Factors like language aptitude, motivation, learning strategies are some of the individual differences that have been studied.

Many educators have defined learning styles of language learners. Two of those educators who did research on learning style are Keefe and Ferrel (1990). They define learning style as ‘cognitive, affective, and psychological traits that are relatively stable indicators of how the learners perceive, interact with, and respond to the learning environment’ (p.17). Likewise, Dunn (1990) adds a few dimensions and defines learning styles as a combination of environmental, emotional, sociological, physical, and psychological elements that permit individuals to receive, store, and use knowledge or abilities’ (p.10). In the same way, Reid (1987) defines learning styles as ‘the perceptual variations among learners in using one or more senses to understand, organize, and retain experience’ (p.89).

Reid (1987) identifies six major style preferences. The first four are preferences for visual, auditory, kinesthetic, and tactile styles of learning, and the last two are preferences for group or individual differences. In a study with foreign students studying in the USA, she found that there are remarkable differences among students in terms of style preferences, and that there is a significant relationship between style preferences and various background variables, such as culture, field of study, length of time in the USA, age, sex, and academic level (p.89).

Research on learning style has shown that when new information is taught through the strongest perceptual strength, success increases. It is also confirmed that

successful and unsuccessful students have different perceptual learning style preferences (Dunn, 1983, p.496).

On the other hand, students who are very active in class, who seem really learning and able to communicate in the target language may sometimes get low grades on tests. Or just the opposite happens and students who are not able to communicate in the target language, who do not join the class activities, get unexpectedly high grades on tests. More interestingly, sometimes two students who seem to be at the same level or who seem to have the same learning styles, may get very different grades (Gregorc, 1984, p.54).

1.2 Problem of the Study

As a natural result of the heterogeneous and mixed ability classes, teaching process should be based on the individual differences that affect students' learning. Individual differences bring different learning styles in a class atmosphere. Students who are learning English as a foreign language make use of their own learning styles for their language study. Students have their own way of learning despite their teachers' teaching styles and the demand of the curricula used in the schools. However, teachers are generally considered not to take these learning styles into account and not to vary their teaching techniques and methods accordingly. Therefore, some EFL students in this country might have difficulties because of the fact that teachers have been teaching their own styles despite the learning styles of their students.

If the teaching styles of teachers do not meet the needs of students, there might be some adverse affects on the success. If the deficiency in learning and

teaching process results from the teachers, they are to adapt their techniques and methods to the learning styles of their students (Dunn, 1990, p.18).

In the light of these problems, this study has four main questions:

1. What are the perceptual learning style preferences of preparatory class students in some Anatolian High Schools in Ankara?
2. What are the perceptual teaching style preferences of their teachers in each school?
3. Do the perceptual learning styles of the students and perceptual teaching styles of their teachers match?
4. Do the teachers in Anatolian High Schools adapt their teaching styles to the learning style preferences of students?

1.3 The Purpose of the Study

During the last three decades, there has been an increasing interest in individual differences and their possible effects on learning. Studies on individual differences in general, and on learning style in particular, have been done in the United States. However, since the educational system in Turkey differs from that in the United States, these findings are not always applicable.

Taking the increasing interest in learning a foreign language in our country into account, and believing that individual differences play an important role in learning, the primary purpose of this research is to discover the learning style preferences of EFL students who are studying in Prep Classes at Anatolian High Schools.

The secondary goal of this study is find out the teaching styles of the teachers who are teaching for some of the Prep Classes at Anatolian High Schools in Ankara, and to find out whether they use the appropriate methods and teaching techniques requiring their own teaching styles for better instruction in the classroom environment or not.

Moreover, it is hoped that possible findings of this study will be beneficial to practicing EFL teachers, and will draw the attention of the researchers in the field to the concept of 'learning style'. Apart from that, the findings of the study may also have implications for curriculum design, materials development, and teacher training. It is possible, too, that teachers will make use of the self-assessment instruments introduced in the study and develop new strategies for matching their students' needs.

1.4 Definitions of the Terms

The following definitions and terms are used throughout the study.

1.4.1 Terms

Affective: 'Affect' refers to emotion of feeling. Of all the learner variables, the most influential are those related to the learners' emotions, attitudes and personalities. There are some affective factors that influence the development of second-language skills. These are self-esteem, Introversion and Extroversion, Risk taking...etc (Vossoughi & Javaherian, 2000, pp.13-14).

Ambiguity: It generally refers to a word or sentence that expresses more than one meaning (Crystal, 1985, p.15).

Analytic: When a learner remembers something by separating it into parts, he is called analytic learner. For example, a learner may divide a sentence into words, memorize the words, and then combine them again to make sentences (Richards & Platt & Weber, 1985, p.123).

Aptitude: The natural ability to learn a language, not including intelligence motivation, interest, etc. (Richards et al., 1985, p.154).

Cognitive: Related to process of knowing, understanding, and learning something. The **cognitive** definition stresses the role of the mind in processing the information acquired. It states that learning is the perception, acquisition, organization, and storage of knowledge in such a way that it becomes an active part of the individual's cognitive structure (Vossoughi & Javaherian, 2000, p.77).

Deductive Learning: An approach to language teaching in which learners are taught rules and given specific information about a language. Then they apply these rules when they use the language. Language teaching methods, which emphasize the study of grammatical rules of a language, (for example, the Grammar Translation Method) make use of this principle of deductive learning (Richards et al., 1985, p.83).

Global: A global learner tries to remember something as a whole. For example, a learner may try to memorize complete sentences in a foreign language (Richards et al., 1985, p. 123).

Impulsive Learner: An impulsive learner learns more effectively when able to respond immediately (Reid, 1998, p. x).

Inductive Learning: Learners are taught grammatical or other types of rules directly but are left to discover or induce rules from their experience of using the language (Richards et al., 1985, p. 73).

Instruction: Teaching someone how to do something.

Mobility: Not being able to sit still for a long time and moving at regular intervals.

Paradigm: A model or example that shows how something works or is produced (Longman Contemporary Dictionary)

Perceptual Style Preferences: They refer to the sensory modes used for organizing information and interacting with the environment (Doyle & Rutherford, 1984, pp.20-21).

Perceptual Teaching Style: It refers to which sensory modes of the students the teacher addresses most in the class (Çekiç, 1991, p.6).

Reflective Learner: A reflective learner learns effectively when give time to consider options (Reid, 1998, p. x)

Trait: A particular characteristic that can produce a particular type of behaviour (Cambridge International Dictionary of English)

1.4.2 Abbreviations

AAAH: Ankara Atatürk Anatolian High School

ATI: Aptitude Treatment Interaction

ÇAAH: Çankaya Atatürk Anatolian High School

EFL: English as a Foreign Language

ELT: English Language Teaching

ESA: Engage, Study, Activate

ESL: English as a Second Language

HÖTAH: Hacı Ömer Tarman Anatolian High School

ID: Individual Difference

L2: Second Language

LSP: Learning Style Preference

MERAH: Mehmet Emin Resulzade Anatolian High School

TL: Target Language

SLA: Second Language Acquisition

SPSS: Statistical Program for Social Science

1.5 Scope of the Study

In order to detect the similarities and differences between students' learning styles and teachers' teaching styles, questionnaires are applied to the target groups in this study. The subjects are chosen among students studying at prep classes of Anatolian High Schools in Ankara and the teachers instructing in the same schools. As it is impossible to conduct this survey in every Anatolian High School in Ankara, Vocational and Technical High Schools are not included in this study.

Not all the aspects of learning and teaching styles, such as environmental, sociological and emotional variables, are covered in this study; only Reid's (1987, 1998) perceptual learning styles are examined. However, two teaching styles questionnaires are distributed to the subjects. One of them is about perceptual teaching preferences, which is adapted from Çekiç's (1991) MA thesis. It aims to find out the similarities and differences between the perceptual learning and teaching styles. It is also significant to point out that perceptual teaching styles questionnaire is delivered to the teachers whose students are exposed to the perceptual learning style questionnaire. The other teaching style inventory, which is adapted from Dunn and Dunn (1993), is used to discover the methodology, techniques and instructional

planning of the teachers at Anatolian High Schools. This questionnaire also detects to what extent teachers vary their teaching according to their students' interests, and learning style preferences. Furthermore, this questionnaire is delivered to not only the teachers whose students are taking learning style questionnaire, but also the ones teaching at prep classes, whose students are not included in this survey. The results of the questionnaires are analyzed and discussed, but materials, which could be appropriate for each type of student, are not suggested in the conclusion part. The results of the questionnaires are analyzed and discussed, but materials, which could be appropriate for each type of student, are not suggested in the conclusion part.

1.6 Methodology of the Study

A written consent was received from the Institute of Educational Sciences in Gazi University, National Education of Province, and National Education of Districts to administer the perceptual learning style questionnaire, perceptual teaching style questionnaire, and teaching style inventory in six different Anatolian High Schools, which are Ankara Atatürk Anatolian High School, Gazi Anatolian High School, Mehmet Emin Resulzade Anatolian High School, Hacı Ömer Tarman Anatolian High School, Etimesgut Anatolian High School, and Çankaya Atatürk Anatolian High School. There are totally 151 students who participated in the administration of perceptual learning style questionnaire. A teacher from each school was given the perceptual teaching style questionnaire. Therefore, there were six teachers who took the perceptual teaching style questionnaire. Finally, 45 teachers from each school participated in the administration of the teaching style inventory. The results were computed and analyzed by means of SPSS. The evaluation of teaching style

inventory, which is adapted from Dunn & Dunn (1993), is different from others in the sense that the scores of this questionnaire are calculated by not only its original evaluation technique, but also by means of SPSS. Therefore, the results are interpreted from different points of view. Then tables or charts are formed to show the results of the questionnaires in Chapter 4. Frequency, percentage, overall mean score, and standard deviation are demonstrated in the tables and the results are discussed in detail.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

This chapter provides a literature review on learning styles and teaching styles. Individual differences of learners have been considered important for the last decades. As a result, individualized instruction and learning styles analysis have become one of the major issues in education in response to the problems of different student approaches to learning. Teaching style is also one of the recently analyzed subjects in foreign language learning and teaching since teachers adjust their instruction to the learner's style.

The focus on individual differences has led to an alternative approach to already existing teaching methods, and further research in this field may have an effect on foreign language teaching methodology.

2.2 Learning and Teaching

A search in contemporary dictionaries reveals that learning is “acquiring or getting of knowledge of a subject or a skill by study, experience or instruction.” Kimble and Garmezy define learning as “Learning is a relatively permanent change in a behavioral tendency and is the result of reinforced practice.” Similarly, teaching may be defined as “showing or helping someone to learn how to do something, giving instructions, guiding in the study of something, providing with knowledge, causing to know or understand.” (in Brown, 2000, p.7). According to Brown (2000) these definitions are awkward and old-fashioned. He also states that such definitions reflect the difficulty of defining complex concepts like learning and teaching (p.7).

He gives a more detailed definition by breaking down the components of the definition of learning. These components are listed below:

1. Learning is acquisition or “getting”.
2. Learning is retention of information or skill.
3. Retention implies storage systems, memory, and cognitive organization.
4. Learning involves active, conscious focus on and acting upon events outside or inside the organism.
5. Learning is relatively permanent but subject to forgetting.
6. Learning involves some form of practice, perhaps reinforced practice.
7. Learning is a change in the behaviour.

According to Brown (2000), teaching cannot be defined apart from learning. Teaching is guiding and facilitating learning, enabling the learner to learn, setting the conditions for learning. Our understanding of how the learner learns will determine our philosophy of education, our teaching style, approach, methods and classroom techniques. For example, if a teacher views foreign language learning as a deductive rather than an inductive process, he/she will probably choose to present copious rules or paradigms to her students rather than let them to “discover” those rules inductively. In other words, the teacher’s theory of teaching is his/her theory of learning “stood on its head” (p.8). In order to define or explain the desired teaching the researcher gives a few examples about teaching environment. The pictures of the teaching environment are taken from Scrivener’s (1994) book. The first example is as follows:

Figure 2.1 The Traditional Teaching Environment



Scrivener, 1994, p.1

Unfortunately, this is the conventional image of a schoolroom- the teacher standing at the front of the class ‘teaching’ and the students sitting in rows listening.

This teaching style is often based on the assumption that the teacher is the ‘knower’ and has the task of passing over this knowledge to the students. According to Scrivener (1994) it is characterized as “jug and mug”- the knowledge being poured from one receptacle into another empty one (p.1). This is done mainly by teacher explanations with occasional questions to or from the learners. There seems to be an assumption that having something explained or demonstrated to the student will lead to learning. After these explanations, the students will often do some practice exercises to test whether they have understood what they have been told. Throughout the lesson the teacher keeps the control of the subject matter, makes decisions about what work is needed and orchestrates what the students do. In this classroom the teacher probably does most of the talking and is by far the most active person.

In many circumstances teacher lecture or explanation may be an efficient method of informing a large number of people about a topic. However, if the educational experience becomes mainly this approach, it should be questioned whether it is the most effective one or efficient teaching method (Scrivener, 1994, p.2).

In the picture above, the teacher is 'teaching', but it is unclear how much 'learning' is taking place. As Scrivener (1994) notes, there are many things that students feel and think during the lesson. The followings are a few of those:

"I am not involved at all."

"I am tired of sitting on this chair."

"I haven't said anything for hours."

"Long explanations are dull- I just turn off."

"I did not understand- now he is talking about something else."

"I would rather do something different."

"He is going too fast."

"He is going too slow."

"It is not an interesting subject."

"I am not doing anything myself." (p.2).

These are the thoughts and the feelings of the students who take place in a traditional schoolroom. Scrivener (1994) also points out the scenery as follows:

Five students are listening and trying to follow the explanations; three others are making detailed notes but not really thinking about the subject; one student is listening but not really understanding anything; one thinks that the teacher is talking about something completely different; three students are daydreaming; one is writing a letter; etc (p.4).

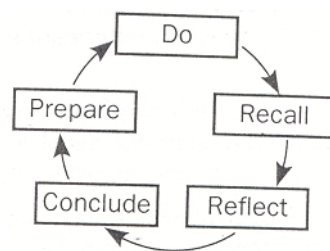
Scrivener (1994) considers significant to point out that teachers cannot learn for their students. Only the students can learn. What the teachers can do is to help create conditions in which they might be able to learn. This could be by responding to some of the student complaints above, by involving them, by enabling them to

work at their own speed, by not giving long explanations, by encouraging them to participate, talk, interact, do things (p.4).

Learning does not happen only in classrooms. Once the outside the classroom is examined, we become interested in how people can learn things in everyday life. Scrivener (1994) answers this question and states that learning happens by trial and error or by reading a manual and following instructions. Moreover it may happen by sitting next to someone who can tell you what to do and give feedback on whether you are doing well (p.4).

According to Scrivener (1994) the process of learning involves five steps: **1)** doing something, **2)** recalling what happened, **3)** reflecting on that, **4)** drawing conclusions, **5)** using those conclusions to inform and prepare for future practical experience.

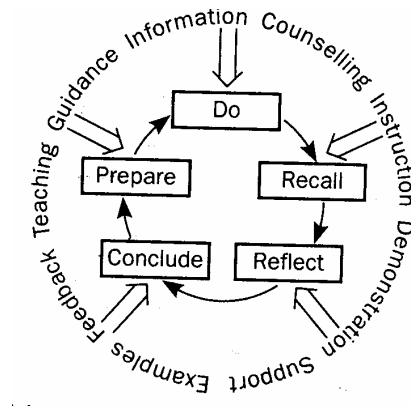
Figure 2.2 The experiential learning cycle.



Scrivener, 1994, p.3

As Brown (2000) states, teaching cannot be defined apart from learning. At this point it is important to note that information, guidance and support from other people come in at any of the five steps of the cycle, which Scrivener indicates in figure 2.3

Figure 2.3 The teaching and the experiential learning cycle.



Scrivener, 1994, p.3

This cycle suggests a number of conclusions for English language teaching in the classroom as follows:

1.If this cycle represents how people learn, then the ‘jug and mug’ approach may be largely inappropriate if it dominates classroom time. Giving people opportunities to do things themselves may be much more important.

2.One may become a better teacher if he worries less about teaching techniques and try to make the enabling of learning his main concern, which is the inner circle of the diagram rather than the outer one.

3.One needs to ensure that he allows his students practical experience in doing things. For example, in *using* language rather than simply listening to lectures *about* language.

4.Being ‘overhelpful’ as a teacher could get in the way of learning. One cannot learn for his students.

5.It may be useful to help students to become more aware about how they are learning, to reflect on this and to explore what procedures, materials, techniques or approaches would help them learn more effectively.

6. It is normal for students to make mistakes, to try things out and get things wrong and learn from that.

7. The sixth conclusion is also true for a 'learning teacher' as well.

Scrivener (1994) reports that there are two assumptions behind the concepts of learning and teaching approaches. One fundamental assumption is that people learn more by doing things themselves rather than by being told about them. The second assumption is that learners are intelligent, fully functioning humans, not simply receptacles for passed-on knowledge. Learning is not simply one-dimensional intellectual activity, but involves the whole person (p.4).

Recent approaches in EFL have increasingly acknowledged the importance of the 'whole person' in the learner. Students may bring pen and paper to the lesson. But they also bring a whole range of other, less visible things to class: their needs, their wishes, their life experience, their home background, their memories, their worries, their day so far, their dreams, their anger, their toothache, their fears, their moods, etc. Given the opportunities, they will be able to make important decisions for themselves, to take responsibility for their learning and to move forward.

Opposing to the picture above, Scrivener (1984) indicates the following pictures. Compared with the former one, it is much harder to guess which person is the teacher. The teacher is no longer the central focus of the class. The activities and speaking are done by everyone, rather than by the person at the front of the room.

Figure 2.4 An Example to an Interactive Teaching Environment



Scrivener, 1994, p.5

Scrivener (1994) considers important to point out that in these pictures learners are not receiving passed-on wisdom, but are actively involved in their own learning (p.5). Therefore, it seems possible that more learning is actually taking place.

Lewis & Hill (1985) support this view and state that the ultimate test of “a good lesson” is not how the teacher performed but whether the students learned (p.8). Then they add that language is complex and language teaching correspondingly complex. It is difficult to make any statement that is always true about language teaching. Different situations call for different materials, different activities, and different strategies (Lewis & Hill, 1985, p.8).

As it is stated above, the attitude and approach of a teacher is very important in the classroom. But also there are elements need to be present in a language

classroom to help students learn effectively. Harmer (1998) calls these elements 'ESA', which stands for *Engage, Study, Activate*.

Engage is the point in a teaching sequence where teachers try to arouse the students' interest, thus involving their emotions. Activities and materials, which frequently engage students, include games, music, discussions, stimulating pictures, dramatic stories, amusing anecdotes etc. But even where such activities and materials are not used, teachers will want to ensure that their students *engage* with the topic, exercise or language they are going to be dealing with. Harmer (1998) mentions that when students are engaged they learn better than when they are partly or wholly disengaged (p.25).

Study activities are those where the students are asked to focus on language or information and how it is constructed. Students can study in a variety of different styles. The teacher can explain grammar, they can study language evidence to discover grammar for themselves, and they can work in groups studying a reading text or vocabulary. But whatever the style, *study* means any stage at which the construction of language is the main focus (Harmer, 1998, p.25).

Activate describes exercises and activities which are designed to get students using language as freely and 'communicatively' as they can. *Activate* exercises offer students a chance to try out real language use with little or no restriction (Harmer, 1998, p.26). Typical *activate* exercises include role-plays, advertisement design, debates and discussions, story and poem writing, writing in groups etc.

It is necessary to emphasize that ESA elements need to be present in most lessons or teaching sequences (Harmer, 1998, p.26). Whether the main focus of the

lesson is a piece of grammar or whether the focus is on reading students always need to be engaged so that they can get the maximum out of the learning experience.

2.3 Development of Learning Style Paradigms

Researches have developed various learning styles paradigms by investigating the learning process in terms of individuals' accustomed ways of learning. Therefore, the field of learning styles has long been in the multi paradigmatic stage (Keefe and Ferrell, 1990, p.57). In a logical progression, the common elements of all paradigms could be combined into a cohesive theory: a state-of-the art learning styles paradigm. In reality, however, they all may be said to have evolved from three precursors: 1) the personality theory 2) the information processing aspect of cognitive style research 3) research on aptitude- treatment interaction (ATI).

2.3.1 Personality Theory

Personality is expected to exert an important influence on learners' interests, aptitudes, and goals since personality is inseparably related to intelligence and cognitive style. According to Chastain, persistence, impulsivity, anxiety, defensiveness, dependency, tolerance, aggressiveness, etc. are all personality characteristics of individuals in school. Learning styles are interwoven with the affective, temperamental, and motivational structures of the total human personality. In this view, according to Messick, a core personality structure is manifested in the various levels and domains of psychological functioning (in Keefe& Ferrell, 1990, p.57). An example of core personality structure is the authoritarian personality. The

authoritarian personality thinks in terms of rigid, inflexible stereotypes and categories and believes in applying oversimplified explanations dogmatically, showing marked intolerance of ambiguity. An example of cognitive style is field-dependence vs. field-independence (global vs. analytic). People in the former category are more dependent on their surroundings, while those in the latter are more independent in their thinking and actions (Keefe & Ferrell, 1990,p.57; Kauchack & Eggen, 1996, p.34; Orlich et al, 1996, p.167). The concepts of field dependence/independence are deeply explained while the term “learning style” is discussed.

McCarty (1990) says that people perceive reality differently. Some people, in new situations, respond primarily by sensing and feeling their way whereas others think things through (p.31). According to Messick, extroversion /introversion is another core personality structure and it is also discussed in various research studies. Almost all of these elements discussed above have been combined into learning style conceptualizations. Learning style thus develops in ways consistent with individual personal traits (in Keefe & Ferrell, 1990, p.57).

2.3.2 Information Processing Theory and Cognitive Approach

Departing from behaviorist tradition, information processing theorists try to ‘identify how innate capacities and experience combine to produce cognitive performance’. It is necessary to define the term ‘cognition’ at this point. Cognition is generally defined as the mental process or faculty by which knowledge is acquired. In cognitive theory, the mind is viewed as an active agent in the thinking and learning process. According to Chastain, cognition has several basic characteristics.

First, cognition is a process. Second, this process is mental. Third, by implication it is internal and fourth, it is ultimately under the control of the learner (in Çekiç, 1991, p.13). Thus, the term ‘cognitive processes’ refers to the individual’s internal mental operations. Cognitive processes might involve conscious attention to some point the teacher is making, conscious reorganization of materials to understand better the concepts being learned, or conscious attempts to recall previously learned information.

Several concepts from cognitivist information processing theory have found their way into learning style conceptualizations. Keefe and Ferrell (1990), for example, state three types of learning style tendencies on the basis of Gregorc and Ward’s studies; 1- an inherent natural learning style; 2- a synthetic strength, which becomes a part of the individual’s functioning, and 3- an adopted artificial style, which never becomes a part of the individual’s typical functioning (p.58).

2.3.3 Aptitude-Treatment Interaction

Reviewing the aptitude-treatment interaction research, Deno (1990) points out that two themes emerge from these studies. One is that there is an important relationship between learning and individual differences. And the other is how to accommodate these differences to enhance achievement in school. Thus, aptitude-treatment interaction research is a systematic attempt to relate individual differences in aptitude, including aspects of cognitive and affective style to instructional method (p.161). According to Keefe and Ferrell (1990) ‘Aptitude’ implies that individuals differ in the amount of a trait they possess. Therefore, the emphasis is on the notion of variability among individuals (p.58).

Aptitude-Treatment Interaction researchers have investigated both cognitive and learning style traits. Although these two terms are used interchangeably by some of the researchers, Keefe and Ferrell (1990, p.58) and Reid (1987, p.88) note that learning style is the broader term and includes cognitive along with affective and psychological traits.

Thus, together with personality and cognitive style research, aptitude-treatment interaction research on several cognitive and affective aspects of individuals served as the basis of the learning style paradigm.

2.4 What is Learning Style

Since the increase in studies of second language acquisition (SLA), the study of individual differences has become an important concern in research. Various theories and research on studying language and people's needs to learn other languages as foreign languages has been on the best way to teach people. Many studies sought to find ways of teaching effectively. Various methods of teaching like Audolingual Approach, Direct Method, Communicative Approach have been developed and applied in various teaching settings and criticized or praised for various reasons (Celce Murcia, 1991). In order to understand the term 'Learning Style, a wide range of definitions are indicated below to shed light onto the study.

2.4.1 Definitions of Learning Styles

In reading through the literature on learning style, one is immediately struck by the range of definitions that have been adopted to describe this concept. These definitions range from concerns about preferred sensory modalities (e.g. visual,

auditory, tactile, etc.) to descriptions of personality characteristics that have implications for behaviour patterns in learning situations (e.g. the need for structure versus flexibility). Others have focused attention on cognitive information processing patterns.

“Learning style” is a term used to describe identifiable individual approaches to learning situations and claimed to account for some of the differences in how students learn. Keefe and Ferrell (1990) define learning style as affective, and psychological traits that are relatively stable indicators of how learners perceive, interact with, and respond to the learning environment (p.59). Dunn (1990), on the other hand, adding a few more dimensions, define learning styles as a combination of environmental, emotional, sociological, physical, and psychological elements that permit individuals to receive, store, and use knowledge or abilities (p.15).

Reid (1987) cites Keefe’s and Dunn and Dunn’s definitions of learning styles. She considers ‘perceptual’ learning styles as ‘a term that describes variations among learners in using one or more senses to understand, organize and retain experience’ (p.89). In determining the LSPs of university ESL students, Reid categorizes style into four sensory groups: auditory, kinesthetic, visual and tactile learners. She determines LSPs by using the inventory developed by Dunn and Dunn (1979). In a study with foreign students studying in the United States, she found that there are considerable differences among students in terms of learning style preferences, and that there is a significant relationship between style preferences and various background variables, such as culture, field of study, length of time studying English, length of time in the United States, age, sex, and academic level (graduate-undergraduate).

Research on learning styles indicated that when new information is introduced through the strongest perceptual strength and reinforced through the second strongest perceptual strength, statistically significant increases occur in academic achievement. It has also been confirmed that successful and unsuccessful students have different learning style preferences (Dunn,1983, p.496; Carbo, 1984, p.72). It is important to note that in this study students' perceptual styles will be investigated corresponding to Reid's definitions of learning styles.

It is also necessary to emphasize Willing's definition of Learning Style. Like recent SLA studies, Willing (1988) criticizes research focused on cognitive styles or mental, invisible cognitive phenomena and says:

Learning style seeks to encompass the mental, the physical, and the affective realms, in order to account for individual differences in learning. In practice, cognitive refers to an attributed structure of mind, which could be quite invisible to an observer, or even to the person concerned. Researchers try to uncover this invisible attribute by asking the subject to perform tasks, which bear little obvious relation to actual ordinary activities. "Learning style" is much more concrete, and could in fact only be assessed in the context of normal activities (p.52).

He further claims that cognitive and learning styles share common features but learning style looks directly at the totality of psychological functioning. The latter affects learning and also includes physiological, sensory and affective domains. In this respect, his view that learning style is a broader concept than cognitive style matches the definition by Keefe (1984) and Hyman & Rosoff (1984). At this point it

is necessary to note the difference between learning style and cognitive style more deeply. Although these two terms are mentioned as the same concept by some researchers, they are not accepted the same by the others so there is a wide range of definitions of cognitive styles and learner styles.

Brown (2000) discusses cognitive styles without mentioning learning styles. He claims that 'the way we learn things in general and the particular attack we make on a problem seem to hinge on a rather amorphous link between personality and cognition; this link is referred to as 'cognitive style' (p.113) But he also adds that cognitive style is not strictly a cognitive matter but meditates between emotion and cognition. When cognitive styles are specifically related to an educational context, where affective and physiological factors are intermingled, they are usually more generally referred to as *learning styles* (Brown, 2000, p.114). Like many conventional learning style discussions, his basic discussion of cognitive styles focused on FI-D as well as the concepts of reflectivity-impulsivity, hemisphere specialization and tolerance of ambiguity, which are unobservable mental or cognitive events.

Larsen-Freeman and Long (1991) share a similar view of cognitive style. They discuss studies of FI-D in a section on cognitive styles. They add the concepts of reflectivity-impulsivity, aural-visual, and analytic-gestalt in this discussion, but unlike Brown, they talk about brain research separately. Their discussion is similar to Brown's in the sense that it accepts styles as cognitive abilities and sensory models rather than as surface actions or behaviours (p.33).

On the contrary, Skehan (1991) does not distinguish learning styles from cognitive styles as two separate branches of research in his article on individual

differences. He refers to FI-D studies as the old and one-dimensional way of discussing styles of learners (in Dizdar, 1998, p.10).

Besides the researcher mentioned above, Shuell (1981) shares the same opinion and he does not distinguish the learning styles from cognitive styles. Shuell (1981) considers significant to point out that learning styles are ‘ the preferred ways that different individuals have for processing and organizing information and for responding to environmental stimuli’ (in Eggen & Kauchack, 1996, p.33).

For the explanation of learning style, two more definitions will be mentioned. Keefe and Ferrell’s (1990) definition is mentioned in a more detailed way than the above one. So learning style is

the composite of characteristic cognitive, affective, and psychological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment. It is demonstrated in that pattern of behaviour and performance by which an individual approaches educational experiences. Its basis lies in the structure of neural organization and personality which both molds and is molded by human development and learning experiences of home, school and society (p.59).

In this definition learning style represents both inherited characteristics and environmental influences.

Dunn (1983) emphasizes the information processing elements in her description of learning style, as follows:

Learning style is the way individuals concentrate on, absorb, and retain new information or skills. It is not the materials, methods, or strategies that people use to learn: those are the new resources that complement each person's style. Style comprises a combination of environmental, sociological, physical, and psychological elements that permit individuals to receive, store, and use knowledge or abilities (p. 496).

2.4.2 Discussions on the term 'Learning Style'

Various researchers have discussed the term 'learning styles'. The most recent trend in defining learning style preferences has been to accept it as referring to the ways people learn, or to personality and preference differences rather than intrinsic abilities that lead to differential success. This allows that learning styles change and are modifiable. As Cheng and Banya (1998) report, learning styles are the result of both nature and nurture. Some are biological and stable, such as the individual's response to sound, light, and temperature whereas others are developmental and flexible, such as perceptual preferences, motivation, and reflectivity. Therefore, they can be trained or extended (p. 80). Moreover, learning styles are influenced by such factors as subject matter, context, age, gender, motivation, and ethnicity. For example, in a formal learning setting where the target language is learned as a foreign language and linguistic accuracy is the major concern, students tend to be more visual, while in an informal learning situation in which communicative fluency is emphasized, students may tend to be more auditory and kinesthetic (Cheng & Banya, 1998, p.80).

Ersöz and Cephe (2000) state, 'Firstly, almost all learning-style models focus on the process of learning- how individuals absorb information, think about information, and evaluate the results. Secondly, it is a common belief that learning is the result of a personal, individualized act of thought and feeling' (p.106).

Similarly other researchers and advocates in the area of learning styles think of styles as being on the borderline between mental abilities and personality. Learning styles fall between these two areas and are the individual's preferred way to learn new skills, knowledge, or techniques. There are several ways that several researchers have approached learning styles. Many researchers like Hymann and Rosoff (1984), Gregorc (1984), Mc Carthy (1987) Dunn (1983, 1984, 1990), Dunn and Dunn (1993), Reid (1987, 1998), Keefe (1984), Keefe and Ferrell (1990) investigated differing styles of learners.

One of the older and more widely used approaches to learning styles is that proposed by Dunn (1983, 1984, 1990), Rita and Kenneth Dunn (1993). Through their work in curriculum development, they observed distinct differences in the ways students respond to instructional materials: some liked to learn alone, while others preferred learning in groups or from a teacher. Out of this preliminary work, Dunn and Dunn identified five key variables, or dimensions, that affect a student's learning style: the learning environment, the amount of emotional support the student needs, sociological composition, and the student's personal and physical traits and preferences. The separate elements within each variable, which are also indicated in figure 2.5, will be described in detail in this study.

In terms of the environment, the Dunns (1993) noted that students differed in terms of their definition of an ideal place to learn. Some wanted a warm, brightly lit

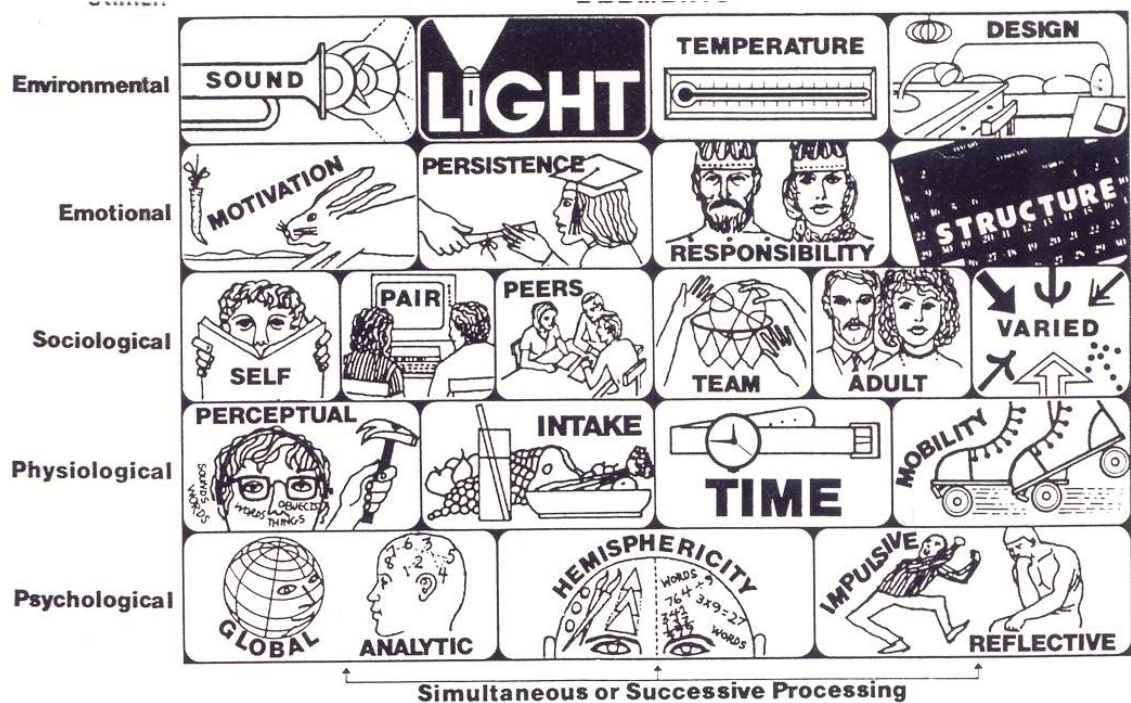
classroom with many people and much verbal interaction, while others prefer cooler, more subdued lighting with a quieter, more informal environment.

The emotional dimension focuses on the extent to which students are self-directed learners. Some learners are self-starters who can be given a long-term project and who can monitor and pace themselves until finishing the job whereas the others are the students who need much support and to have their assignments in small chunks with periodic due dates.

Students also differ in how they react to peer interaction. Some dislike group projects while the others thrive on the companionship and support provided by group work.

The final dimension identified by the Dunns relates to individual differences in terms of personal and physical preferences. Some of the students are visual; the others prefer auditory channels. Time is an important element in this dimension since some of the students learn better in the morning while the others don't function fully until later in the day (Orlich et al, 1996, p.169). The figure, which shows Dunn's learning styles model, is shown in the following.

Figure 2.5 Learning styles Model



Dunn and Dunn, 1993, p.4

One reason for the popularity of Dunn and Dunn's categorization system is that it was generated by classroom experience and therefore has considerable ecological validity (in Orlich et al, 1996, p.169). It is also stated that other approaches to learning styles come from psychological explanations that describe individual differences in terms of how people look at the world.

Another approach to learning styles is Anthony Gregorc's meditation ability theory (1985). Based on limited research into the functions that the left and right hemispheres of the brain perform, Gregorc's system focuses on the implications of these functions for perceiving and ordering (in Butler, 1987, p.10). **Perceptual preferences** refer to the ways students prefer to gain information. *Concrete-oriented* students prefer input through the physical senses. *Abstract-oriented* students prefer more logical, deductive modes of learning. **Ordering abilities** refer to the ways in

which students arrange, systematize, and dispose of new information. Some students, called *sequential learners*, prefer a systematic, step-by-step presentation. Others, called *random learners*, find the linear approach boring. They would rather have an unorganized, simultaneous display of information (Orlich et al, 1996, p.170).

Gregorc mentions that: “perceptual abilities are the means through which you grasp information. Ordering abilities are the ways in which you authoritatively arrange, systematize, reference and dispose of information.” (in Butler, 1987, p.10) He explains that every mind has the perceptual ability to perceive the world in concrete and abstract form, and the ordering ability to order the world in sequential(linear) and random(nonlinear) ways. Even though everyone uses all four qualities, some people perceive the world more abstractly than concretely, and others do the reverse. Similarly, some people are more random than sequential in their ordering of information and vice versa. Others exhibit a balance among the four qualities.

McCarty’s 4MAT system, like Gregorc’s, is based on the premise that education should focus on not only the logical, analytical dimensions of the left brain but also the more creative, imaginative aspects of the right brain (McCarty, 1990, p.38). McCarty identifies four learning styles based on those dimensions of perceiving (thinking/analyzing versus sensing/feeling) and how people prefer to process information.

McCarthy (1990) explains 4MAT system as follows:

All of us feel, reflect, think, and do, but we linger at different places along the way. And these lingerings form our learning style preferences, complex patterns of individuality,

developed over time, that bias what we see and how we see it. Differences in our learning style depend on many things: who we are, where we are, how we see ourselves, what we pay attention to, and what people ask and expect of us.'(p.31).

He also states that there are two major premises in 4MAT system: 1- people have major learning styles and hemispheric processing preferences; and 2- designing and using multiple instructional strategies in a systematic framework to teach to these preferences can improve learning and teaching. When these two dimensions of perceiving and processing come together, four major learning styles emerge: imaginative learners, analytic learners, common sense learners, dynamic learners (McCarthy, 1990, p.32).

Imaginative learners perceive information concretely and process it reflectively. They listen and share ideas to learn. They work with harmony and need to be personally involved. They find school too fragmented and disconnected from the personal issues that they find most interesting. Analytic learners perceive information abstractly and process it reflectively. They devise theories by integrating their observations into what they know. They learn by thinking through ideas and value sequential thinking. They need details and are thorough and industrious. They enjoy traditional classrooms and find school well suited to their needs.

Common Sense learners perceive information abstractly and process it actively. They integrate theory and practice, learning by testing theories and applying common sense. They are pragmatists: they believe if something works, then use it.

They value strategic thinking. Since they feel a strong need to work on real problems, they find school frustrating.

Dynamic learners perceive information concretely and process it actively. They are enthusiastic about new things, and are adaptable. They integrate experience and application, learning by trial and error. For them, school is often tedious and overly sequential because they are too frustrated with the structure of schools.

Hymann and Rosoff (1984) discuss different definitions of learning styles and claims that there is no single research that makes a very clear definition (p.35). They criticize the definitions suggested by Dunn (1983), Dunn and Dunn (1979), Gregorc (1979) and Keefe (1979). Hymann and Rosoff reject the definitions that view learning styles as ability or inner characteristics of learners rather than as the actual action or behaviors of learners. For Rita Dunn, Kenneth Dunn and Gary Price, learning style is the manner in which at least 18 different elements from four basic stimuli affect a person's ability to absorb and retain (Dunn, 1983, p.497). These 18 elements from four types of stimuli are sound, light, temperature, design (environmental); motivation, persistence, responsibility, need for structure (emotional); working alone, working with another student, working with many students, working with a team of students; working with an adult, working with some combination of adults and peers (sociological); perceptual strengths, intake, time of day, need for mobility (physical) (Dunn, 1983). Dunn and Dunn (1993) have added the psychological dimension of learning styles and the number of elements has increased to 21 elements.

According to Hyman and Rosoff (1984), intelligence is not listed in Dunn's definition. Indeed, intelligence does not appear to fit into the four types of stimuli-

environmental, emotional, sociological and physical (p.32). If intelligence is one of the 18 elements or does not become the 19th, then Dunn's definition suffers because it flies in the face of what we all know; a brilliant person with a superior capacity to learn, remember, and create new knowledge has a different learning style from an average person or a brain-damaged person.

Hyman and Rosoff also regard Gregorc's definition as another major problem. According to Gregorc, 'learning style, from a phenomenological viewpoint, consists of distinctive and observable behaviours that provide clues about the meditation abilities of individuals' (in Hyman and Rosoff, 1984, p.37) Gregorc limits the behaviours to giving clues about the ability to mediate, which is cognitive ability. He leaves us in need of clarification of the term *meditation abilities*. He indicates four learning styles based on observation and interviews: concrete sequential, concrete random, abstract sequential, and abstract random (Hyman and Rosoff, 1984, p.37).

Hyman and Rosoff (1984) accept Keefe's definition (1979) as the best available despite some deficiencies they mention. They agree with his distinction that: 'Learning style and cognitive style have often been used synonymously in the literature although they are not the same. Learning style, in fact, is a broader term and includes cognitive along with affective and psychological styles' (p.37). Keefe's definition takes the difference between learning styles and cognitive styles into consideration as well as including three dimensions (cognitive, affective, and psychological) of behaviour. Nevertheless, Hyman and Rosoff criticize this definition as well; saying that Keefe does not include any specificity about these behaviours (p.37).

2.4.3 Learning Style vs. Learning Strategy

After defining the term ‘learning styles’ it is necessary to make the distinction between learning styles and learning strategies since these two terms might be confused. As Brown (2000) mentions, there is a clear distinction between strategies and styles. He describes the difference between learning strategies and styles as follows:

Strategies are specific methods of approaching a problem or task, modes of operation for achieving a particular end, planned designs for controlling and manipulating certain information. They are contextualized ‘battle plans’ that may vary from moment to moment or day to day or year to year. Strategies vary intraindividually; each of us has a whole set of those in sequence for a given problem.

Style, on the other hand, is a term that refers to consistent and rather enduring tendencies or preference within an individual. Styles are those general characteristics of intellectual functioning (and personality type, as well) that especially pertain to you as an individual, which differentiate you from someone else. For example, you might be more visually oriented, more tolerant of ambiguity, or more reflective than someone else. These would be styles that characterize a general pattern in your thinking or feeling (pp.112, 113).

In other words, learning strategies are specific methods or techniques we consciously apply when we are faced with a problem or learning task, unlike learning styles which are not consciously deployed to direct learning.

Reid states that the term ‘learning styles’ refers to a person’s general approach to learning and problem solving. More specifically learning style refers to an individual’s natural, habitual, and preferred way(s) of absorbing, processing, and retaining information and skills (cited in Carson and Longhini, 2002, p.408). Learning styles are accepted as internally based characteristics, often not perceived and consciously used by learners, for the intake and comprehension of new information. In general, students retain these preferred learning styles despite the teaching styles and classroom atmospheres they encounter, although students may acquire additional styles over time. According to Reid (1998), highly successful students often have multistyle preferences, and sometimes students adapt their learning styles by experimentation and practice (p. ix). Furthermore, Oxford and Nam (1998) considers necessary to emphasize that many successful learners are aware of their preferences for learning styles, which are the ones they find the most comfortable and easy to use (p.52).

However, ‘learning strategy’ is a technical phrase that means any specific conscious action or behaviour a student takes to improve his or her learning. Language learning strategies are “specific actions taken by the learner to make learning easier, more self-directed, more effective, and more transferable to new situations” (Oxford, 1990, p.8). Therefore, learning strategies are external skills often used consciously by students to improve their learning. Examples include metacognitive strategies such as self-monitoring and self-evaluation; cognitive strategies such as note taking and inferencing; and social/affective strategies such as clarification questions and cooperative work. In a similar manner Oxford and Nam (1998) state that learning strategy choices are often related to preferred learning

styles. For instance, a student who has a strongly visual learning style tends to use the strategies of taking notes and outlining, whereas an auditory learner tends to use the strategies of recording lectures and listening to them after class ends (p. 53).

2.4.4 Learning Style and Individual Differences

As it is asserted before no two people learn exactly alike, but are students completely dissimilar in the ways they approach learning? Or, in other words, are there any similarities in terms of how different groups of students learn, and what can teachers do about these similarities and differences? Researchers in this area have termed these similarities “learning styles” and have developed instructional programs to meet the needs of different groups of students. Learning styles are usually defined as cognitive, affective, and physiological traits of learners as they interact in the classroom environment.

Students with different learning styles understand educational problems in different ways, and they try to solve them in different ways. These characteristic approaches to solving problems are relatively stable. The stability of learning styles is important because they remain relatively constant over time, they not only influence learning but also allow the teacher to identify them and adapt the instruction accordingly.

The cultural and background experiences of students are also parts of human diversity and influence how they understand the new material and how they respond to instruction. Differences in background, experience, socioeconomic status, culture, and language all influence learning (Dunn and Griggs, 1995, p.9). For example,

teachers who move from a rural setting to a big city school will find that they need to adapt how they teach. (Orlich et.al, 1996, p.166).

The study of individual differences in Second Language Acquisition (SLA) includes different concepts depending on whose research one examines. For example, Larsen-Freeman and Long (1991) include personal factors such as age and aptitude, social-psychological factors like attitude and motivation, personality factors, cognitive strategies such as ID among the possible causes of differential success among learners. According to Tudor (1996) the individual differences belonging to foreign or second language learners have been examined under four headings (p.101). They are:

- Introversion-extroversion
- Tolerance of ambiguity and risk-taking
- Anxiety and self-esteem
- Cognitive style

There are two main factors affecting these variables. They are *psychological* and *cognitive*. The former relates to learner's psychological and affective reactions to the interpersonal aspect of language study whereas the latter relates to the way in which learners organize their experience of the world and how they prefer to learn.

2.4.4.1 Introversion-Extroversion

Extroversion and its counterpart, introversion, are important factors in the acquisition of a foreign language. However, the terms are often misunderstood because of a tendency to stereotype extroversion. Brown (2000) considers significant to point out this case and adds, "We are prone to think of an extroverted person as a

gregarious, 'life of party' person. Introverts, conversely, are thought of as quiet reserved, with tendencies toward reclusiveness (p.155). At this point it is necessary to mention what Oxford and Ehrman state as an opposing suggestion:

The typical extrovert is sociable, likes parties, has many friends, needs to have people to talk to, and does not like studying by himself. He craves excitement, takes chances, acts on the spur of the moment, and is generally impulsive individual. He always has a ready answer, and generally likes change. The typical introvert, on the other hand, is a quiet, retiring sort of person, introspective, fond of books rather than people; he is reserved and distant, except with intimate friends. He does not like excitement, takes matters of everyday life with proper seriousness, and likes a well-ordered life (as cited in Tudor, 1996, p.102).

According to Brown (2000) such a view of extroversion is misleading. Extroversion is the extent to which a person derives a sense of wholeness *from other people* as opposed to receiving that affirmation within oneself. Extroverts need other people in order to feel "good." But extroverts are not necessarily talkative. They may be relatively shy but still need the affirmation of others. Introversion, on the other hand, is the extent to which a person derives a sense of wholeness and fulfillment apart from a reflection of this self from other people. Contrary to the stereotypes, introverts can have an inner strength of character that extroverts do not have (p.155).

Brown (2000) answers the question "Do extroversion or introversion help or hinder the process of second language acquisition?" with an example of research. The Toronto study (Naiman et al. 1996) found no significant effect for extroversion in characterizing the good language learner. Busch (1982), in a comprehensive study on extroversion, explored the relationship of introversion and extroversion to English

proficiency in adult Japanese learners of English in Japan. She hypothesized that extrovert students would be more proficient than introverts. Her hypothesis was supported by her findings. In fact, introverts were significantly *better* than extroverts in their pronunciation. Therefore this result confirms Brown's (2000) suggestions at the beginning (p.156).

2.4.4.2 Tolerance of Ambiguity and Risk-Taking

Tudor (1996) defines tolerance of ambiguity as 'the acceptance of confusing situations', and points out that 'a degree of ambiguity tolerance is essential for language learners' (p.104). Manifestly, a learner who has no tolerance of ambiguity, and who rejects risk-taking will either give up completely or will at least experience considerable discomfort in studying an L₂, especially in the early stages of learning. At the same time, too great tolerance of ambiguity is likely to hinder progress in the TL.

Tolerance of ambiguity is closely related to the psychological trait of *orientation to closure*, which Oxford and Ehrman (1993) define as 'the degree to which the person needs to reach decisions or clarity' (cited in Tudor, 1996, p.104). Below Tudor (1996) explains two profiles of the learning preferences of students in terms of orientation towards closure:

Students *oriented toward closure* are hard working, organized and planful, and have a strong need for clarity. They want lesson directions and grammar rules to be clearly spelled out. Such students avoid spontaneous conversations and games in the L₂ classroom

unless they have had an adequate time to use metacognitive strategies such as preparing vocabulary lists and reviewing the rules involved in any given interaction.

Students *less oriented to closure* are sometimes known as ‘open learners’. They take L₂ learning less seriously, treating it like a game to be enjoyed rather than a set of tasks to be completed and judged, and they avoid too much planning and preparation. Because of their relaxed attitude, open learners have been shown to be less dependent on the curriculum and quality of the syllabus than more closure-oriented learners (p.104).

These poles of learning preference share certain common features with the variable introversion-extroversion. Learners oriented towards closure manifest the concern with analysis and order, and the avoidance of spontaneity, which is taken to be characteristic of introverts. Learners less oriented toward closure manifest the more relaxed or even playful attitude to learning which is generally associated with extroverts.

‘Risk-taking is an important characteristic of successful language learning’ is the assumption some researchers depend on (Brown, 2000, pp.149, 150; Tudor, 1996, pp.104, 105). Learners have to be able to gamble a bit and to take the risk of being wrong (Brown, 2000, p.149). In recent language learning research, high risk-taking, like extroversion, has been viewed in positive terms and is considered to foster language use. Furthermore, the rejection of risk-taking is likely to limit learners’ exploration of the TL and prevent them from being productive. (Tudor, 1996, p.105). However, it is a common belief that more successful learners are those

who view learning tasks as ‘medium-risk, and achievable’. The idea here is that if a task is seen as high risk, discouragement may result; if, on the other hand, the task is seen low-risk there may be an absence of challenge, resulting in adequate involvement.

2.4.4.3 Anxiety and Self-Esteem

There is no necessary link between an individual’s feelings of self-esteem and the presence of anxiety, neither in life in general nor within the context of language study. Nevertheless; it is generally accepted that certain aspects of language learning can produce anxiety. Furthermore, for certain individuals, language learning may be perceived as threatening to their self-esteem, and therefore give rise to negative feelings.

Oxford and Ehrman (1993) define self-esteem as ‘a self-judgment of worth or value based on feelings of “efficacy”, a sense of interacting effectively with one’s own environment’. (as cited in Tudor, 1996, p.106). They examine self-esteem under two headings whereas Brown (2000) examines the same subject under three headings. The common levels of self-esteem are global and situational self-esteem. Brown describes the third one, which is task self-esteem.

Global, or general, self-esteem is based on ‘self-perceptions of competence in various broad areas, such as academics, social interaction, physical appearance. It is said to be relatively stable in a mature adult, and is resistant to change except by active and extended therapy. It is the general assessment one makes of one’s own worth over time and across a number of situations.

Situational, or specific self-esteem, on the other hand, is ‘a much more specific state or efficacy relating to a specific situation, event, or activity type. For, example a person can feel good about himself or herself globally but at the same time experience low-esteem in a particular situation or environment. According to Brown (2000) Situational self-esteem refers to one’s self-appraisals in particular life situations, such as social interaction, work, education, home, or on certain relatively discretely defined traits, such as intelligence, communicative ability, athletic ability, or personality traits like gregariousness, empathy, and flexibility (p.145).

Situational self-esteem is the more relevant of the two concepts in terms of language learning, although global self-esteem may also play a role (Tudor, 1996, p. 106). For example, a learner with low global esteem may enter his language study with negative expectations based on previous perceptions of failure.

Task self-esteem relates to particular tasks within specific situations. Brown (2000) explains this with a few examples. Within the educational domain, task self-esteem might refer to one subject-matter area. In an athletic context, skill in a sport would be evaluated on the level of task self-esteem (p.147). Therefore specific self-esteem or, in other words, situational self-esteem might encompass second language acquisition in general, and task self-esteem might refer to one’s self-evaluation of a particular aspect of the process. For instance, speaking writing, a particular class in second language, or even a special kind of classroom exercise.

The other personality factor is the anxiety. The construct of anxiety plays an important affective role in second language acquisition. Although Brown (2000) points out that anxiety is not easy to define in a simple sentence, he says ‘It is

associated with feelings of uneasiness, frustration, self-doubt, apprehension, or worry (p.151).

One distinction in this area is between *facilitating* and *debilitating* anxiety. Scovel (1978) describes these terms in terms of the ‘fight or flight’ syndrome:

Facilitating anxiety motivates the learner to ‘fight’ the new learning task; it gears the learner emotionally for approach behaviour.

Debilitating anxiety, in contrast, motivates the learner to ‘flee’ the new learning task; it stimulates the individual emotionally to adopt avoidance behaviour (p.139).

Several studies suggest the benefit of facilitative anxiety in learning foreign languages. In Bailey’s (1983) study of competitiveness and anxiety in second language learning, facilitative anxiety is one of the keys to success, closely related to competitiveness. She found in her self-analysis that while competitiveness sometimes hindered her progress, at other times it motivated her to study harder. Furthermore, she explained the positive effects of competitiveness by means of the construct of facilitative anxiety.

Researchers report that teachers had better examine if the anxiety is truly debilitating when the language students are anxious. They note that a little nervous tension in the process is a good thing. Nonetheless, too much and too little anxiety may hinder the process of successful second language learning (Brown, 2000).

The research on anxiety suggests that, like self-esteem, anxiety can be experienced at various levels (Brown, 2000, p.151). Thus, the other distinction in this area is *trait* and *state* anxiety.

Trait anxiety is a relatively stable aspect of the individual's personality and characterizes individuals whose overall approach to life is fearful and apprehensive. **State anxiety** is transitory, and arises out of a specific situation or event and may be triggered by a variety of factors from speaking in public to examinations (Tudor, 1996, p.107). Therefore, it is important in a classroom for a teacher to try to determine whether a student's anxiety stems from a more global trait or whether it comes from a particular situation at the moment (Tudor, 1996, p.107; Brown, 2000, p.151).

Anxiety can manifest itself in a variety of ways; absence from class when the learner has to speak or 'perform' in some way, reluctance to contribute to class interaction, excessive concern with detail, overboisterousness, complaints about teaching materials or facilities, blushing, nervous gestures coughing prior to turn-taking (Shore, 1995; Tudor, 1996).

2.4.4.4 Cognitive Style

Cognitive style differs from the other variables of individual differences in that it relates less to learners' affective and psychosocial involvement in the learning process than to their habitual modes of processing information and, in a general sense, or organizing their perceptions of and interaction with their environment. Kachru (1988) defines cognitive style as follows:

Cognitive style is a hypothetical construct that refers to the characteristic ways in which individuals conceptually organize the environment; that is, 'cognitive style' refers to ways in which individuals filter and process stimuli so that the environment takes on

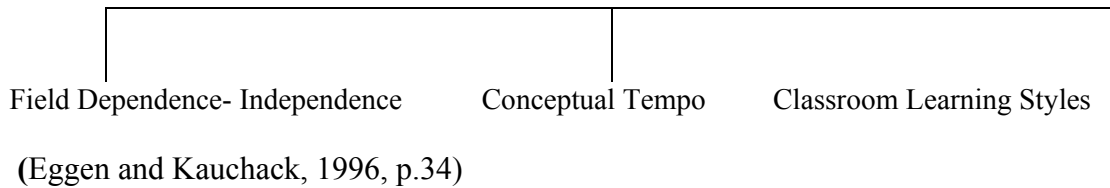
psychological meaning. It also refers to consistencies in individual modes of functioning in a variety of behavioral situations (in Tudor, 1996, p.109).

The concepts of right and left hemisphere of the brain have received attention in recent years. Neurological research has indicated that the left hemisphere is specialized in 'logical, analytical, linear information-processing', while the right hemisphere is specialized in 'synthetic, holistic, imagistic information-processing' (Willing, 1988, p.146). Kachru suggests that individuals who rely more on left hemisphere processing are better at tasks such as producing separate words, gathering specifics of languages, carrying out sequences of operations, classifying and labeling items, whereas right hemisphere dominant learners are better at dealing with language as a whole and show more sensitivity to emotional reactions, metaphors, artistic experiences (in Tudor, 1996, p.109).

The cognitive variable, which has received the most attention in recent years, is field dependence-field independence (FI-FD). The key element in the FI-FD variable is 'the extent of autonomous functioning', in other words 'whether an individual characteristically relies on the external environment as a given, in contrast to working on it' (Willing, 1988, p.149). FD individuals tend to see the world as an unanalyzed whole, whereas FI individuals are more inclined to work on their environment in an analytic and self-directive manner. The difference between FI and FD is explained in detail below.

Eggen and Kauchack (1996) also states three dimensions of learning styles, which have a close connection with individual differences. These dimensions are shown and explained below:

Figure 2.6 Dimensions of Learning Styles



1. Field Dependence/ Independence

Eggen and Kauchack (1996) suggest “Field Dependence/ Independence is the ability of an individual to select relevant from irrelevant information in a complex and potentially confusing background” (p.34).

Field Dependence/Independence is typically measured by showing people geometric figures embedded within other figures to see whether they can pick out the disguised form in the larger context. Field-Independent students are able to pick out the subcomponents, while field-dependent students experience more difficulty. Differences in field-dependence/independence influence classroom performance. For example, researchers have found that field-independent students take notes that are better organized than those taken by field-dependent students (Eggen and Kauchack, 1996, p.3). It is generally accepted that Field-independent students are also better at reconstructing problems to fit end goals. They typically prefer to work alone and do well in the individualized systems. They are not ultimately dependent upon the opinion of others (Tudor, 1996, p.112). Field-dependent students, by contrast, are more sensitive to context cues and attack problem more globally. They are more socially dependent and need others for cues. Furthermore, Tudor (1996) considers that learning performance is much improved if group or authority figure give praise to Field Dependent learners (p.112).

Field Independent learners have tendency to show traits of introversion while Field Dependent learners tend to show traits of extroversion. Besides, Field Independent learners have left hemisphere strengths and they perform best on analytical language tasks such as understanding and using correct syntactical structures; semantically ordered comprehension of words, phonetic articulation. However, Field Dependent learners have right hemisphere strengths and they perform best on tasks calling for intuitive ‘feel’ for language such as expression, richness of lexical connotation, discourse, rhythm and intonation (Tudor, 1996, p.112).

2. Conceptual Tempo: Impulsive and Reflective Learners

Students also differ in the rate at which they respond to questions and problems. According to Walczyk and Hall (1989) this is called **conceptual tempo**. Reflective students think more before they answer whereas impulsive learners take more chances and make more mistakes. So impulsive students perform better in speed games in which the target is low-level factual information while reflective students have an advantage when high-level problem solving task is assigned (in Eggen and Kauchack, 1996, p. 35).

3. Classroom Learning Styles: The work of Dunn and Dunn

One of the most popular approaches to applying learning styles in classrooms was formulated by Rita Dunn (1983) and Dunn & Dunn (1993). These researchers identified a number of preferred learning style dimensions and sought answers to the following questions:

- Modality: Does the student learn better through listening or reading?
- Structure/Support: Does the learner need high structure, or is he or she an independent learner?
- Individual/Group: Does the learner work best independently or in groups?
- Motivation: Is the student self-motivated, or does he or she require external rewards?
- Environment: How do light, temperature, noise, and time of day influence learning? (Dunn & Dunn, 1993, p.6).

Eggen and Kauchack (1996) share the same opinion and add in their book that some people learn most effectively through visual representation of concepts and other ideas. Other people tend to be more auditory and they learn best through oral presentation to each human being and do not tend to change very easily (p.35).

2.4.5 Learning Styles and Multiple Intelligences

It is a clear fact that many students enter school today unprepared to succeed in a conventional educational environment. Traditional teaching methods do not seem to address the needs of these students. Nonetheless, it cannot be underestimated that the field of EFL has been discussing and implementing learner centered teaching for a considerable length of time and there has been a transition from teacher-centered to learner-centered teaching in foreign language classrooms. Now is the time for a smooth transition from learner-centered to individual-centered teaching.

As a possible answer to this problem, Gardner (1983) suggests that human organism has at least seven distinct units of intellectual functioning. He labels these units ‘intelligences’, each with its own observable and measurable abilities.

As stated above, much of today’s education addresses only Linguistic and Logical-mathematical Intelligences, the ones in which most educators seem to be dominant. The problem lies in the fact that many of today’s students are dominant in the other five intelligences. Many researchers in the field of MI support the idea that it is highly probable that many students labeled as underachievers are dominant in a learning style that is opposed to the prevailing teaching style. At this point it is significant to note that there is a close relationship between learning styles and MI, as well as VAK. For example, Ersöz and Cephe (2000) discuss and compare learning style theory, whose commonly accepted classification is VAK, and MI theory. The first discusses general learner approaches to a task whereas the second deals with one’s capacity geared to a specific content. They state that teachers should master and integrate these two theories in order to design effective materials and activities (p.108). Thus, the integration of Multiple Intelligences and learning styles is indispensable.

The seven intelligences in Gardner’s (1983, 1993) theory of Multiple Intelligences are:

1. *Verbal/ Linguistic Intelligence*

Linguistic intelligence consists of the ability to think in words and to use language to express and appreciate complex meanings (Campbell, Campbell & Dickinson, 1996, p.2). Altan (2001) defines the linguistic intelligence as the ability to use language to cite, stimulate, please, convince, and convey information (p.53). Ersöz and Cephe (2000) also mention that people having verbal/linguistic intelligence like reading, telling jokes, making up stories and poetry, playing word games, creative writing, formal speaking, learning new words, and debating (p.106).

2. *Logical/ Mathematical Intelligence*

It is the ability to understand the basic concepts of numbers; the ability to appreciate principles of cause and effect and one-to-one correspondence; the ability to explore and predict patterns, categories, and relationships by manipulating objects and symbols; and the ability to experiment in controlled, orderly ways (Altan, 2001, p.53). People who have logical/mathematical intelligence enjoy solving puzzles and other problems, working with numbers and mathematical formulas and operations, figuring things out, analyzing things, and working with abstract patterns and relationships (Ersöz and Cephe, 2000, p.106).

3. *Visual/Spatial Intelligence*

It is the ability perceive and mentally manipulate forms or objects; the ability to perceive and create tension, balance and composition in visual or spatial ways. Kagan and Kagan (1998) state that we think in and express this intelligence through pictures, sculpture, arranging objects, and navigating through space. Those strong in the visual-spatial intelligence enjoy doodling, designing, drawing, combining colors, arranging objects, and often have good sense of direction (p. 4.16).

4. *Bodily-Kinesthetic Intelligence*

Altan (2001) defines the Bodily-kinesthetic Intelligence as the ability to use fine and gross motor skills (p.53). Additionally, Kagan and Kagan (1998) note that this intelligence is the ability to think in, with, and about movement and gestures. Facial and hand gestures and movements are symbols to think in and express this intelligence (p. 4.26). Individuals having this type of intelligence are good at dancing, running, swimming, working with their hands, using body language and other physical gestures, and demonstrating how to do something (Ersöz and Cephe, 2000, p. 107).

5. *Musical Intelligence*

It is the ability to enjoy, recognize, perform, and compose musical pieces; sensitivity to rhythm and speed. Melodies and rhythms are symbols to think in and express this intelligence. Some forms this intelligence takes include playing instruments, singing songs, reading music, composing melodies and lyrics, and appreciating music. Likewise Ersöz and Cephe (2000) add, ‘They are also very sensitive to sound patterns and are good at picking up sounds, remembering melodies, and recognizing different musical instruments in a composition’ (p.106).

6. *Intrapersonal Intelligence*

It is the ability to gain access to, understand, and control one’s inner feelings, dreams, and ideas; the ability to remind oneself to do something. Those strong in the intrapersonal intelligence enjoy solitude, contemplation, and an opportunity to explore inner states and thoughts including preferences, plans, fantasies, memories and feelings.

7. *Interpersonal Intelligence*

It is the ability to understand, work effectively with, and get along with others. According to Kagan and Kagan (1998), we use our interpersonal intelligence to know and interact successfully with others. Some forms of this intelligence takes include leadership skills, friendship skills, and ability to understand points of view different from one's own (p. 4.46). If individuals have an interpersonal intelligence, they are good at understanding people, demonstrating empathy towards others, working cooperatively with others (Ersöz and Cephe, 2000, p.107).

Gardner (1993) argues that everyone is born possessing the seven intelligences, but we are not limited to seven intelligences only (p.45). He says, 'Perhaps there are candidates that I have not considered' (p.39). Thus, it is concluded that there are some other intelligences that address other candidates. Kagan & Kagan (1998) state that there might be more intelligences to be canonized and they evaluate the claims for additional intelligences (p.5.1). These are *Naturalistic Intelligence* and *Existential Intelligence*. *Naturalistic Intelligence* involves the recognition and classification of the numerous species of his or her environment.

Kagan & Kagan (1998) define the naturalist as the individual who is able to make other consequential distinctions besides recognizing his or her environment and to use his ability productively in the fields like hunting, farming and biological science. Briefly it is the ability to identify and classify patterns in nature (p.4.36). Ersöz and Cephe (2000) note that individuals having this kind of intelligence are aware of their surroundings and changes in their environment and they like field

trips, expeditionary activities, hiking, camping, and other activities relating to the natural environment (p. 107).

Additionally, Existential Intelligence involves the capacity to locate oneself with respect to the furthest reaches of the cosmos, and the capacity to locate oneself with respect to the most existential features of the human condition, the significance of life, the meaning of death, the ultimate fate of the physical and psychological worlds.

According to Christison (1998), MI has great potential for helping to revolutionize our concept of student language-learning capabilities in the ESL classroom (p.7). It is entirely accepted that our students learn differently. MI theory can help us develop language-learning materials to address these differences. Besides, Christison (1998) suggests that, “MI theory offers ESL/EFL teachers a way to examine their best teaching techniques and strategies in light of human differences since the language-learning activities we choose as teachers are often directly related to the totality of our experiences, which, in turn, affect the Multiple Intelligence profiles of our students” (p.7). Therefore, as we learn more about our own profile, we become more confident in the choices we make that affect our teaching.

Before explaining the integration of MI and learning styles, it is significant to summarize the similarity and difference between them. As Silver, Strong and Perini (1997) mention, it is possible to compare and contrast these two theories as follows:

Learning style theory attempts to interpret the different ways people think and feel as they solve problems, create products, and interact. On the other hand, the theory of multiple intelligences attempts to understand how cultures and disciplines shape human potential (p.22).

2.4.5.1 The Integration of Multiple Intelligences and Learning Styles

Studies in child development, cognitive skills under conditions of brain damage, psychometrics, and changes in cognition support the distinctions among these intelligences. Thus, Silver et al. (1997) considers significant to point out that a rich research base which combines physiology, anthropology, and personal and cultural history backs Gardner's model. He also adds this theoretical depth is sadly lacking in most learning style models (p.24). Moreover, Gardner seven intelligences are not abstract concepts, but are recognizable through common life experiences. Silver et al. (1997) explains this with an example and states 'We all intuitively understand the difference between musical and linguistic, or spatial and mathematical intelligences.' (p.24). Nevertheless, according to Silver et al. (1997), there are two gaps in multiple intelligence theory that limits its application to learning. First, the theory has grown out of cognitive science, but not one called affective science. On the other hand, learning style theory has deep roots in psychoanalysis. Learning style theorists, therefore, give psychological *affect* and individual personality central roles in understanding differences in learning.

It is important to note that multiple intelligences theory looks where style does not (Silver et al., 1997, p. 24). It focuses on the content of learning and its relation to the disciplines. According to Silver et al. (1997) such a focus means that it does not deal with the individualized process of learning. So this is the second limitation of multiple intelligence theory, and it becomes clear if the variations within a particular intelligence are considered (p. 24).

Are conductors, performers, composers, and musical critics all using the same musical intelligence? Or, are the dancers and football players using the same

kinesthetic intelligence? How can we explain the difference in the spatial intelligences of Picasso and Monet, who are both masters of modern art? Silver's et al. (1997) answer to these questions is as follows:

It is generally agreed that different types of intelligence are at work in these situations. Gardner's work does not provide adequate guidelines for dealing these distinctions. Most of us, however, have a way of explaining the individual differences between Monet and Picasso; a dancer and a football player or between the students in our classrooms. We refer to these individuals as having distinct *styles* (p.24).

Teachers respond to this distinction considering the differences at the individual level. Thus, **learning styles**, with their emphasis on differences on thought and feeling, are the tools we need to describe and teach to these differences.

It is also necessary to emphasize that Learning styles emphasis on the individual learning process and Gardner's content-oriented model of multiple intelligence are surprisingly complementary. Without multiple intelligence theory, style is rather abstract, and it generally undervalues the context. And without learning styles, multiple intelligence theory proves unable to describe different processes of thought and feeling. So each theory responds to the weakness of the other; together, they form an integrated picture of intelligence and difference. In the same way Ersöz and Cephe (2000) say, ' Both theories naturally have weaknesses and strengths. If they are integrated, their respective limitations may be minimized and their strengths may be enhanced to help our students become self-motivated and competent lifelong learners' (p.107).

Silver, et al. (1997) devised four learning styles which are *Mastery*, *Interpersonal*, *Understanding*, *Self-expressive*. He describes a set of four learning processes or abilities for each of Gardner's intelligences to demonstrate the integration of multiple intelligences with learning styles. Figure 2.7 shows a sample for kinesthetic intelligence integrated by four styles.

Sample "Kinesthetic" Vocations by Style			
Mastery		Interpersonal	
The ability to use the body tools to take effective action or to construct or repair <i>Mechanic, Trainer, Craftsperson, Tool and Dye Maker</i>		The ability to use the body to build rapport, to console or persuade, and to support others <i>Coach, Counselor, Salesperson, Trainer</i>	
Understanding		Self-expressive	
The ability to plan strategically or to critique the actions of the body <i>Physical Educator, Sports Analyst, Professional Athlete, Dance Critic</i>		The ability to appreciate the aesthetics of the body and to use those values to create new forms of expression <i>Sculptor, Choreographer, Actor, Dancer, Mime, Puppeteer</i>	

Figure 2.7 Sample "Kinesthetic" Vocations by Style (Silver et al., 1997, p.25)

As it is clearly seen in the figure above Silver et al. (1997) demonstrates how styles are integrated in kinesthetic intelligence. Next, he lists samples of vocations that people are likely choose.

The following outline shows the abilities and sample vocations for the other six intelligences are categorized by learning style:

1. Verbal-Linguistic Intelligence

Mastery: The ability to use language to describe events and sequence activities. Sample vocations are journalist, technical writer, and administrator.

Interpersonal: The ability to use language to build trust and rapport. Sample vocations are salesperson, counselor, clergyperson, and therapist.

Understanding: The ability to develop logical arguments and use rhetoric. Sample vocations are lawyer, professor, philosopher, and orator.

Self-expressive: The ability to use metaphoric and expressive language. Sample vocations are playwright, poet, advertising copywriter, and novelist.

2. Logical-Mathematical Intelligence

Mastery: The ability to use numbers to compute, describe, and document. Sample vocations are accountant, bookkeeper, and statistician.

Interpersonal: The ability to apply mathematics in personal and daily life. Sample vocations are tradesperson and homemaker.

Understanding: The ability to use mathematical concepts to make conjectures, establish proofs, and apply mathematics and data to construct arguments. Sample vocations are logician, computer programmer, scientist, and quantitative problem solver.

Self-expressive: The ability to be sensitive to the patterns, symmetry, logic, and aesthetics of mathematics and solve problems in design and modeling. Sample vocations are composer, engineer, inventor, designer, and qualitative problem solver.

3. Visual-Spatial Intelligence

Mastery: The ability to perceive and represent the visual-spatial world accurately. Sample vocations are illustrator, artist, guide, and photographer.

Interpersonal: The ability to arrange color, line, shape, form, and space to meet the needs of others. Sample vocations are interior decorator, painter, clothing designer, weaver, and builder.

Understanding: The ability to interpret and graphically represent visual and spatial ideas. Sample vocations are architect, computer graphics designer and art critic.

Self-expressive: The ability to transform visual and spatial ideas into imaginative and expressive creations. Vocations such as artist, inventor, model builder, and cinematographer are examples to this integration.

4. Musical Intelligence

Mastery: The ability to understand and develop musical technique. Sample vocations are technician, music teacher, and instrument maker.

Interpersonal: The ability to respond emotionally to music to work together to use music to meet the needs of others. Sample vocations are choral, band, and orchestral performer or conductor; public relations director in music.

Understanding: The ability to interpret musical forms and ideas. Vocations such as music critic and music collector are examples to this integration.

Self-expressive: The ability to create imaginative and expressive performances and compositions. Sample vocations are composer, conductor, and individual/small-group performer.

5. Interpersonal Intelligence

Mastery: The ability to organize people and to communicate clearly what needs to be done. Sample vocations related to this intelligence are administrator, manager and politician.

Interpersonal: The ability to use empathy to help others and to solve problems. Some examples for this kind of intelligence are social worker, doctor, nurse, therapist and teacher.

Understanding: The ability to discriminate and interpret among different kinds of interpersonal clues. Such vocations are sociologist, psychologist, psychotherapist and professor of psychology or sociology.

Self-expressive: The ability to influence and inspire others to work toward a common goal. Consultant and politician are some examples to this intelligence.

6. Intrapersonal Intelligence

Mastery: The ability to assess one's own strengths, weaknesses, talents, and interests and use them to set goals. Sample vocations are planner and small business owner.

Interpersonal: The ability to use understanding of oneself to be of service to others. Counselor and social worker are examples to this intelligence.

Understanding: The ability to form and develop concepts and theories based on and examination of oneself. A psychologist is an example profession for this intelligence.

Self-expressive: The ability to reflect on one's inner moods, intuitions and temperament and to use them to create or express a personal vision. Examples to this intelligence are artist, religious leader and writer.

Finally, Silver et al. (1997) state that in the linguistic intelligence domain, a person with the *Mastery* style might write an article, develop a newscast, or describe a complex procedure. By contrast, a person with *Self-expressive* style might write a play, spin a tale, or develop an advertising campaign. In the kinesthetic intelligence domain, a person with an *Understanding* style might choreograph a concept or teach a physical education concept; a *Self-expressive* style might create a diorama or act out an emotional states or concepts (pp.26-27).

2.4.5.2 Where do Learning Styles and Multiple Intelligences Overlap?

Educators who believe in the concepts of learning styles and multiple intelligences bring an approach and attitude to their teaching of focusing on how students learn and the unique qualities of each learner. Both of these theories offer a comprehensive approach to learning and teaching. Both force us to examine our values about people, learning, and education to make decisions that put beliefs into practice. So what are some commonalties of learning styles and multiple intelligences? Guild (1997) states six areas that overlap:

1. Both of the theories are learning and learner-centered. As it is stated before the learner is the most important focus of the educational system. In other words, students are the center of attention. Schools that are learner-centered focus their energies on helping all students to be successful learners. They weigh decisions about structure, routines, class composition, curriculum, content and materials, and

assessments and evaluation for their effect on the learner. Furthermore, outcomes result from the learner's needs and interests. Curriculum is flexible; it is not present to be covered in a specific time. Briefly the learning process is the dominant focus.

2. The teacher is a reflective practitioner and decision maker. In order to appropriately apply learning styles and multiple intelligences, teachers should understand the theories, continue to study them, reflect upon them, and make appropriate applications for their own students and their own situations (Guild, 1997, p.31).

3. The student is also a reflective practitioner. Students talk about their own learning and active in the planning and assessment of the learning process. They are engaged in exploring, experimenting, creating, applying, and evaluating their ways of learning, as well as interacting actively content and concepts they are studying.

4. The whole person is educated. As Guild (1997) notes, teachers pay attention to the cultural, physical, social, and emotional life of the learner as well as to his or her academic life (p.30). Both of the theories promote personalization of education by connecting the student's total life to the learning in the classroom.

5. The curriculum has substance, depth, and quality. Basic skills are treated seriously and frequently learned in the context of appropriate applications. Schools spell out high and sometimes uniform standards for learning outcomes, but they consciously avoid standardization of curriculum and methodologies. Proponents of learning styles and multiple intelligences demonstrate that they should be accommodating the students' strengths and individual intelligences.

6. Both of these theories promote diversity. It is a core principle in both theories that individuals are unique and that this uniqueness has an effect on students' various

ways of learning. Teachers and students celebrate and foster diversity (Guild, 1997, p.31).

2.4.6 Elements of Dunn's Learning Styles

2.4.6.1 Environmental Elements

Some people claim that they cannot think with noise; they need silence when they are engaged in cognitive activities. Others can block out sounds; they can concentrate in the middle of confusion and are oblivious to anything other than their tasks. Others appear to work best with noise in their environment; whenever they want to learn anything new, they automatically turn on the radio, or television because they need sound to permit concentration.

The amount of light also has an effect on the learning capabilities of some students. Many students find that they can concentrate only in bright light; low light makes them gloomy. Others report that the reverse is true; low light calms them and permits them to learn easily, whereas bright light makes them nervous and fidgety.

Room temperature has also been found to have an effect on learning. Although the classrooms where the temperature can be controlled by the learners are rare, some students need to be warm when they learn and others simply cannot function unless they feel the temperature is cool. Consequently, the classroom should be arranged so that there are variations in room temperature. At the very least, the teacher needs to be aware of how close or how far away from the heaters and air conditioners certain students sit.

Some students cannot learn in a restrictive environment that requires them to sit quietly without moving. Some students do their best studying seated on a floor;

lounging on a bed, a chair. Others can work only in a sturdy chair at a table, as in a conventional classroom or library.

2.4.6.2 Emotional Elements

Motivation is an important element in determining how well a student will learn a given body of information; however, great variance exist among learners in terms of how much motivation they exhibit for different learning activities. Some students show a very little interest or at the most a very short attention span when many activities are undertaken. Highly motivated students are better able to overcome selected learning style preferences than those who are unmotivated. Poorly motivated students require that tasks be divided into small segments; they also need positive feedback while learning. Obviously, these students need special instructional strategies to help them learn. Such learners need to be encouraged to make free choices in order to vary the way they work in the learning environment.

Persistence is also a very important aspect of a learner's style. Bedwell, Hunt, Touzel & Wiseman (1991) state, "Some students can only stay on task for about twenty minutes while others can work an hour or more at the assignment. Because of this variance in student persistence, it is suggested that students who seem to have short attention spans be given assignments that have a specific time limit that is realistic for those involved"(p.40). In line with his view, Dunn (1983) also reports that "when absorbed in an activity, they are able to persist" and adds that persistence is the only element of learning style that appears to be related to IQ (p.498).

Another important emotional element is *responsibility*. It is reported that this element correlates with conformity. Nonconforming students do not achieve through

conformity and often learn more easily when permitted options (Dunn, 1983). Also Bedwell et al. (1991) state that many students seem unable to work unless they are closely supervised. These students find it quite difficult to work independently in a self-paced situation.

Highly related to the other elements of emotional stimuli is *structure*. Some students cannot begin an assignment without specific directions concerning its exact focus or length, whether it should be written with pen or pencil, whether spelling counts on and so on. Others need only general requirements before starting a task and establish their own guidelines. Bedwell et al. (1991) report “Students who have special learning styles based on their emotional needs are the ones who probably need the closest attention from the teacher. Students who do not have these same needs are most likely to be able to work independently” (p.40).

2.4.6.3 Sociological Elements

Students often vary greatly in terms of the type of learning group they desire; this variety ranges from learning alone to learning in large groups. Some people do their best thinking alone; the presence of others distracts them. Others work better in pairs or in teams. Some like to learn with adults whereas others need peers. There are others who cannot concentrate with anyone present and may not have the independence skills to work alone; some of these work well with media-computer, language master, videotapes and so on. Some can learn well in any combination-alone, with others, or with media. The latter group is described as ‘learning in several ways or varied.’ (Dunn, 1983).

2.4.6.4 Physical Elements

Some researchers report that both environmental and physical elements of learning style are biological; they are genetically imposed by nature. However, they vary at different stages of life, but the rate at which they develop or change is said to be related directly to the individuals maturation and physical condition (Dunn, 1983).

For example, some students evidently learn best when they are eating or drinking. However few teachers would be able to accommodate such a learner to meet this type of learning need (Bedwell et. al, 1991).

As some teachers may find it difficult to adjust to a learner's need for the intake of food or drink, it does seem reasonable to suggest that the students schedules could sometimes be adjusted to the fact that they may learn better during certain times of the day. Accordingly, if a student learns best during the latter part of the morning, this is the time to provide the most demanding tasks.

Finally, some students need to be mobile before they can satisfy their learning needs completely. Such students tend to function best in an informal learning environment because of their need to move, stretch, and even walk around before they can adjust well to the teaching-learning environment. As Dunn (1984) states, 'Many children cannot sit still for long periods of time; others cannot sit even for short periods' (p.19).

Some people learn best when they are taught through their preferred sensory modes; some are auditory oriented whereas some others prefer visual input. There is also another group that has a combination of modes, for example visual/tactile or auditory/visual.

2.4.6.5 Psychological Elements

Some youngsters learn sequentially, step by step, in a well-arranged continuum-the way math, biology and grammar are often taught. Others cannot begin to focus on the content without an initial overall 'gestalt' of the meaning and use of what will be taught. Such students require a visual image of the topic and an illustrative anecdote to involve their thinking and motivation. The first type of learning is called analytic; the second, global.

During the past few years it has been learned that students who tend to be left-brained learn under very different conditions from those who are right-brained (Dunn, 1983). Students who are left and right-brain have different environmental and organizational needs within the classroom.

Highly related another stimuli of psychological elements are reflectivity and impulsivity. Impulsive students often call out answers without considering varying possibilities, while reflective ones rarely volunteer information although they may know the answers. Verbal class participation is difficult for some and easy for others.

2.4.7 Perceptual Learning Styles

2.4.7.1 What are Perceptual Learning Styles

As mentioned before, definitions of the term ‘learning style’ range from concerns about preferred sensory modalities to descriptions of personality characteristics that have implications for behaviour patterns in learning situations. It refers to a pervasive quality in learning behaviour of an individual, a quality that persists even though content may change, therefore “applicable to all areas of education” (Brandt, 1990, p.11). Among the 21 elements, or learning styles, Dunn (1983, 1984) reports on ‘perceptual learning styles’, a term that refers to the sensory modes used for organizing information and interacting with the environment. It describes the variations among students in using one or more senses to understand and retain what has been experienced.

Research in the United States (Dunn, 1983, 1984; Reid, 1987) demonstrates that learners have six basic perceptual modalities:

1. Visual Learning Style Preference: Students who have a visual learning style as the major perceptual learning style learn well from seeing words in books, on the chalkboard, and in workbooks. They remember and understand information and instructions better if they *read* them. They don’t need as much oral explanation as an auditory learner, and they can often learn with a book. Reid (1998) suggests that they should take notes of lectures and oral directions if they want to remember the information (p.165).

2. Auditory Learning Style Preference: Students who have an auditory learning style as the major perceptual learning style preference learn from *hearing words* spoken and from oral presentations. They can remember information by

reading aloud or by moving their lips as they read, especially when they are learning a new material. They benefit from hearing audiotapes, lectures and class discussion. They benefit from making tapes to listen to, by teaching to other students, and by conversing with their teacher.

3. Kinesthetic Learning Style Preference: Learners with a major kinesthetic perceptual style learn best by experience, by being involved physically in classroom experiences. They remember information well when they actively participate in activities, field-trips, and role playing in the classroom. A combination of stimuli-for instance, an audiotape combined with an activity- will help them understand new material (Reid, 1998, p.166).

4. Tactile Learning Style Preference: Students with a tactile learning style learn best when they have the opportunity to do “*hands-on*” experiences with materials. That is, as Reid (1998) explains, working on experiments in a laboratory, handling and building models, and touching and working with materials provide them with the most successful learning situations. *Writing notes or instructions* can help them remember information, and *physical involvement* in class-related activities may help them understand new information.

5. Group Learning Style Preference: Students learn more easily when they study with at least one other student, and they might be more successful completing work well when they work with others. They value group interaction and class work with other students, and they remember information better when they work with two or three classmates. The stimulation they receive from group work helps them learn and understand new information.

6. Individual Learning Style Preference: Students learn best when they work *alone*. They think well when they study alone, and they remember information they learn by themselves. Briefly, they understand material best when they learn it alone, and they make better progress in learning when they work by themselves.

Reid (1998) points out that besides one of these major learning style preferences, a learner can have a minor learning style. She mentions that in most cases, minor learning styles indicate areas where students can function well as a learner (p.166). Usually, a very successful learner can learn in several different ways, and therefore the learners might want to experiment with ways to practice and strengthen their minor learning styles.

Studies on perceptual learning style rely primarily on self-reporting questionnaires, as many studies on learning styles do. They reveal students' preferences for selected elements. In 1984 Joy Reid developed and formed the PLSP survey. This questionnaire allowed ESL students to self-identify their preferred learning styles among six categories, which are mentioned above. Reid published (1987) the results of her large-scale study with many students who completed the survey intensive English language program classes across the United States. The data analysis showed that

- Most ESL students studying English in the United States showed strong major style preferences for kinesthetic and tactile learning.
- Most ESL students preferred not to learn in groups.
- ESL students from different language/cultural backgrounds often differed significantly in their choices of major, minor, and negative learning styles.

- ESL students from specific major fields often preferred specific learning styles. For example, engineering students preferred tactile learning, and students in the hard sciences preferred visual learning (Reid, 1998, p. 18).

Dunn (1983, 1984) claims that research findings of herself and her colleagues verify that most of the students correctly identify their learning strengths. According to her, students achieve significantly higher scores when their preferred styles are matched with methods, resources or environments, so Dunn (1984) mentions, “their preferences must be their strengths” (p.13).

Dunn and Dunn (1993) also found that young children in the United States are mostly tactile or kinesthetic and that there is a gradual development of visual and auditory strengths through the elementary grades. She says that “most of these youngsters do not become auditory learners before 5th and 6th grade”, and adds, “girls become auditory earlier than boys” (p.418). Carbo (1983), in a survey comparing perceptual learning styles across achievement levels, found that good readers prefer to learn using their visual and auditory strengths, whereas poor readers have higher preferences for learning tactually and kinesthetically. According to Dunn and Dunn (1993), 20-30% of school age children are auditory learners, 40% are visual, and the remaining 30-40% are tactile/kinesthetic, visual/tactile or some other combination.

2.4.7.2 Perceptual Learning Styles and Foreign Language Learning

Research in second or foreign language learning has focused generally on cognitive styles and on conscious learning strategies. Most of the students concern the interaction of cognitive styles and affective variables with situational demands

(Ehrman & Oxford 1990; Oxford et al., 1990). The conscious learning strategies of nonnative speakers of English have also been investigated by some researchers in the United States. These studies have showed that learners vary in the strategies they use for foreign language learning because of differences in learning styles, affective variables, and cognitive styles.

Although there is little research on perceptual learning style in addition with foreign language learning, one study of Reid (1987) compared perceptual learning style preferences of ESP students with various background variables. She identifies six major style preferences; the first four are preferences for visual, auditory, kinesthetic, and tactile style of learning, and the last two are preferences for individual or group differences. The foreign students' preferences were different from those of American students. She observed that the foreign students as a whole, preferred kinesthetic and tactile learning styles, and most groups did not like group learning. Students at the graduate level were more likely to prefer visual and tactile learning, and undergraduate students were more likely than graduate ones to favor auditory learning. There was some interaction of chosen field of study and learning style preferred; for example, engineering and computer science students were more likely to prefer tactile learning than humanities students. The higher the students' English test scores, the more similar their preferences were to American students' preferences. Similarly, the longer they had been in the United States the more their preferences were like those of American students. There were also clear effects for language or national origin. Korean students were the most visual, and Arabic and Chinese the most auditory. Within all the groups, however, there remained major individual differences.

Contrary to Dunn's (1983) assumption that perceptual strengths are biological, Reid's study shows that experience leads to modification of style preference. Thus, the purpose of this study will be to investigate whether individuals differ in their preferences for learning styles (visual, auditory, kinesthetic, and tactile).

2.5 What is Teaching Style

How effectively you teach is closely related to how you choose to teach, and the ways in which you feel most comfortable working. Recognizing the need for teachers to select a good instructional method has long been a dominant force in education. Nevertheless, merely following a particular method does not always insure that adequate teaching is being conducted. As students learn in many ways-by seeing and hearing; reflecting and visualizing, teaching methods also vary. Some instructors lecture, others demonstrate or discuss; some focus on rules and others on examples; some emphasize memory and others understanding. Felder and Henriques (1995) state "how much a student learns in a class is governed in part by that student's native ability and prior preparation but also by the compatibility of his or her characteristic approach to learning and the instructor's characteristic approach to teaching" (p.21).

As it is mentioned before, the ways in which an individual characteristically acquires, retains, and retrieves information are collectively termed as the individual's learning style. As Cheng and Banya (1998) say, 'Learning and teaching styles are the result of both nature and nurture' (p. 80). Some are biological and stable, such as

individual's response to sound, light, and temperature. Others are developmental and flexible, such as perceptual preferences, motivation, and reflectivity; that is, they can be trained and extended.

Like many researchers in the field, Dunn & Dunn (1993) also state that there are many ways of teaching same content; some people do it verbally, others do it visually, others experientially, and others tactually. All approaches are effective, but not for the same students (pp.411-412).

Even so serious mismatches may occur between the learning styles of students in a class and the teaching style of the instructor with unfortunate consequences. The students tend to be bored and inattentive in class, do poorly on tests, get discouraged about the course, and may conclude that they are not good at the subject of the course and give up (Smith & Renzuli, 1984, p.46). In the same way, instructors confronted by low test grades, unresponsive or hostile classes, poor attendance, and dropouts, may become overly critical of their students or begin to question their own competence as teachers.

At this point different perspectives on the term teaching style and the definitions will be discussed. Formerly, kinds and roles of the teacher, which might be a basis for the concept of teaching style, will be mentioned.

2.5.1 Kinds of Teacher

The teacher is like an orchestra conductor who brings unique presence and talents, a personal history, and an individual style to the persons with whom he/she works. These invisible and indivisible forces of the teacher shape the course of a class, determine its vitality, and influence the development of its members. Among

the most difficult components of education to measure, yet one of the crucial factors for student success, the teacher as an instrument of thought influences the teaching/learning process. Challenged to affect the lives of learners, teachers must balance their own needs and possibilities with those of their students (Butler, 1987, p.51).

The discussions on the term teaching style are not limited with the definition of Butler (1987). As she labels the teacher as an orchestra conductor, Scrivener (1994) also describes the teacher in three broad categories.

1. The Teacher as the Explainer

According to Scrivener (1994) many teachers know their subject matter very well, but have limited knowledge of teaching methodology (p.6). This kind of teacher relies mainly on ‘explaining’ or ‘lecturing’ as a way of conveying information to the students. He also points out that done with style or enthusiasm or wit or imagination this teacher’s lessons can be very entertaining, interesting and informative. In this kind of class, the students are listening, occasionally answering the questions and perhaps taking notes, but are mostly not being personally involved or challenged. By contrast, the learners often get practice by doing individual exercises after one phase of the lecture has finished.

2. The Teacher as the Involver

Like the explainer, this teacher also knows the subject matter that is being dealt with. However, she is also familiar with teaching methodology; She is able to use appropriate teaching and organizational procedures and techniques to help her students learn about the subject matter. ‘Teacher explanations’ may be one of these techniques, but it is only one option among many techniques. This teacher is trying

to involve the students actively and puts a great deal of effort into finding appropriate and interesting activities while she is retaining clear control over the classroom and what happens in it.

3. The Teacher as the Enabler

As Scrivener (1994) states, teaching is about working with other human beings (p, 6). This kind of teacher knows about both the subject matter she is teaching and also about the methodology. Furthermore she has an awareness of how individuals and groups are thinking and feeling within her class. She actively responds to this in her planning and working methods and in building effective working relationships and a good classroom atmosphere. Her own personality and attitude are an active encouragement to learning.

This kind of teacher is confident enough to share control with the learners, or to hand it over entirely to them. In many cases she takes her lead from the students, seeing herself as someone whose job is to create the conditions that enable students to learn for themselves. Sometimes this may involve her in less traditional ‘teaching’; she may become a ‘guide’ or a ‘counselor’ or a ‘resource of information when needed’. Sometimes, when the class is working well under its own steam, when a lot of autonomous learning is going on, she may be hardly visible. The three broad categories of ‘teacher’ description are indicated in the figure below.

	Subject Matter	Methodology	People
Explainer	√		
Involver	√	√	
Enabler√	√	√	√

Figure 2.8 The Kinds of Teacher (Scrivener 1994, p.7)

Scrivener (1994) considers significant to point out the importance of the ‘rapport’ between teachers and students. Nonetheless, there is a problem with rapport, that is, the difficulty to define and quantify. It often seems to be the magical ingredient that makes a teacher a teacher- or not. He says, ‘the rapport is the personal atmosphere a teacher creates in the classroom. It is the difference between a room where people are defensive and anxious or a room where people feel honest and take risks’ (p.7).

He notes a number of factors in a teacher that might positively affect the learning atmosphere in a classroom. According to Scrivener (1994), an effective teacher:

- really listens to his/her students;
- shows respect;
- gives clear, positive feedback;
- has a good sense of humour;
- is patient;
- knows his/her subject;
- inspires confidence;
- trusts people;
- empathizes with students’ problems;
- is well-organized;
- paces lessons well;
- does not complicate things unnecessarily;
- is enthusiastic and inspires enthusiasm;
- can be authoritative without being distant;
- is honest;
- is approachable.

Carl Rogers, an American psychologist, suggests that there are three core teacher characteristics that help to create an effective learning environment. These are **respect**, which is considered as a positive and non-judgmental regard for another person; **empathy**, which is being able to see things from the other person’s

perspective, as if looking through their eyes; and **authenticity**, which is being oneself without hiding behind job titles, roles or masks (in Scrivener, 1994, p. 8).

When a teacher has these three qualities, the relationships within the classroom are likely to be stronger and deeper and communication between people much more open and honest. The educational atmosphere becomes positive and supportive. The learners are able to work with less fear of taking risks or facing challenges.

2.5.2 Definitions of Teaching Style

If one thinks back to his own school days, one will probably remember that the good teachers one has had in one's lifetime did not all behave alike or even with great similarity. Rather, each stands out as a person, an individual, some for one reason, and some for another. Each had his own peculiar methods, values, and techniques. Good teaching is like that, an intensely personal thing.

Arthur W. Combs

When we attempt to examine and interpret our learning style and the forces behind it, we probe our inner selves. We question our natural abilities, range of our capacities, and emotional state. Butler (1987) states that investigation of inner self must come before investigation of role-related self (p.51).

Every teacher has a personal learning style. Every teacher brings a unique self to the classroom. As with learning style, the concept of teaching style can help us to understand the person as a teacher. Butler (1986) notes that teaching style can

be considered from many points of view and for many purposes. In her book, she views it as a concept to gain perspective about the person in the process of teaching and as a way to see how the teacher, as an instrument of thought, shapes the reality of the classroom.

From a phenomenological point of view, teaching style is a set of ‘distinctive behaviours of that place meditation demands upon the mind qualities of both the learner and the teacher.’ Although we can identify teaching style through the behaviours of the teacher in the classroom- according to Butler (1987) many teaching-style questionnaires already address this task- identification is the first step. She adds, ‘once we identify behaviours, we must ask the crucial questions: What meditation abilities should the teacher and the student use to meet the expectations of this class? Are these meditation abilities the teacher’s natural abilities? How does the need to meet meditation demands affect the teacher and the learner? What changes in attitude and action need to take place in order for the teacher to use natural abilities and to extend the teacher’s style-flex repertoire? If these questions can be addressed, then, the teacher will have the opportunity to examine why he or she uses a particular teaching style, and to consider options for change, growth, and development’ (p.52).

When this phenomenological teaching style definition is translated to the classroom, a more specific definition of teaching style is created. Butler (1987) defines the teaching style specifically as follows:

Teaching style is a set of attitudes and actions that open a formal and informal world of learning to students. It is a subtle force that influences student access to learning and teaching by establishing

perimeters around acceptable learning procedures, processes, and products. The powerful force of the teacher's attitude toward students as well as the instructional activities used by the teacher shape the learning and teaching experience and require of the teacher and student certain meditation abilities and capacities. Thus, the manner in which a teacher presents himself or herself as a human being and receives learners as human beings is as influential upon the students' lives and learning as the daily activities in the classroom (p.52)

She also adds that a teacher's style is the collection of the many attitudes and behaviours he/she employs to create the best possible conditions under which learning can take place (p.52).

In a similar manner, Henson and Borthwick (1984) define teaching style as "a pervasive way of approaching the learners that might be consistent with several methods of teaching" (p.6). Although two teachers may both teach by using such methods as lectures, visual or auditory materials, and discussion groups, they can still be significantly different in teaching styles.

The following examples of teaching styles are also from Henson and Borthwick (1984).

- 1. Task oriented:** Specifically planned tasks associated with some appropriate materials are prescribed.

- 2. Cooperative manner:** Teacher and students plan an instructional venture but the teacher is in charge.

3. Child centered: The teacher provides a task structure with the students given options according to their interests.

4. Subject centered: Content is planned and structured to the extent that students are nearly excluded.

5. Learning centered: The teacher shows equal concern for both the student and subject matter. Child and subject centered styles are not acceptable since this teacher attempts to guide students in their development.

6. Emotionally exciting: These teachers exhibit an emotional enthusiasm in their attempts to make their teaching as stimulating as possible.

However, Henson and Borthwick (1987) adds, ‘merely identifying a teaching style is of little value unless an attempt is made to match it with an appropriate learning style’ (p.6).

2.5.3 Teaching Style and Personality

Cooper (2001) defines teaching style as ‘the sum total of instructional activities, techniques, and approaches that a teacher feels most comfortable using when he or she is in front of a class’ (p.301). He also criticizes most of the literature on teaching style. Teaching style does not deal with the teaching of particular subjects but concentrates on defining teaching style in a general sense. He considers significant to describe what teachers of particular subjects such as foreign languages actually do in class; what activities they like to include in lesson plans; and what techniques, methods, and approaches they prefer. A study about foreign language teaching style, then must start with the assumption that makeup of a teacher’s personality determines what she will do in her classroom, that is, it determines which

teaching activities will appeal to her when she plans and teaches a lesson (Cooper, 2001, p.301).

Cooper (2001) concentrates on a model of personality type, which is based on Jung's theories. The Myers-Briggs theory of personality type grew out of the work of the Swiss psychologist Carl Jung and two American women, Katharine Briggs and her daughter, Isabel Briggs Myers. After years of research, Briggs, working with her daughter, determined that there are four personality dimensions and 16 distinct personality types. Consequently, The Myers-Briggs Type Indicator (MBTI) is the instrument that they developed to measure personality type.

2.5.3.1 Personality Type

The MBTI, which has been widely used in educational, career, and family counseling settings, identifies the preferred way an individual gathers data and judges, in other words, make decisions, according to four dichotomies. These dichotomies are extroversion or introversion (E-I), sensing or intuition (S-N), thinking or feeling (T-F), and judging or perceiving (J-P). Cooper (2001) describes the four dichotomies or dimensions of personality below.

1. The E-I dichotomy is designed to reflect what a person's basic attitude or orientation toward life is. Extraverts are oriented toward the outer world, because they 'focus their energy on people and objects. Introverts are oriented primarily toward the inner world, focusing their energy on concepts, ideas, and internal experiences' (p.303).

2. The S-N dichotomy reflects an individual's preference between two opposite ways of perceiving or becoming aware of things, people, happenings, and ideas. A person may rely primarily upon the mental process of sensing, which attends to observable facts or happenings through one or more of the five senses. Intuitive people rely more upon the less obvious process of intuition, which attends to meanings, relationships, and possibilities that have been worked out beyond the reach of the conscious mind (Cooper, 2001, p. 303).

3. The T-F dichotomy reflects a person's preference between two contrasting ways of making judgments or decisions or coming to conclusions about what has been perceived. If a person relies primarily on the process of thinking, he or she makes decisions impersonally on the basis of logical consequences. Or, a person may rely primarily on the process of feeling to decide primarily on the basis of personal or social values. In Jung's and Myers' approaches, the term *thinking* does not imply intelligence or competence, and the term *feeling* is not to be confused with *emotional*. Intelligence and emotional expression are independent of psychological typology (Cooper, 2001, p.303).

4. The J-P dichotomy identifies the attitude or orientation and an individual uses in dealing with the outer world, the extraverted part of life. A person who prefers exercising a judging attitude or orientation typically uses either thinking or feeling when dealing with the outer world. A person who prefers a perceiving orientation reports a preference for using either sensing or intuition when dealing with the outer world (Cooper, 2001, p. 303).

According to Myers, McCaulley, et al. both the theory and practical observations describe individuals as using each of the eight preference categories at least some of the time (as cited in Cooper, 2001, p.303-304).

The scales of the MBTI, extroversion-introversion (one's orientation toward life); sensing-intuition (one's data perception process); thinking-feeling (one's judgment or decision-making processes); and judgment-perception (one's orientation to the outer world) enter into almost every behaviour and the way an individual approaches a task. To the extent to which the MBTI scales describe one's approach to learning, the MBTI can also be referred to as an instrument for measuring learning styles (Cooper, 2001, p.304). Learning styles are information-gathering and processing preferences that affect the focus of attention of individual learners, the choice of learning activities that students will select, and the kinds of experience that will enhance motivation. The MBTI preferences can be defined as an individual's 'tendency to gravitate toward a given type of processing whenever circumstances permit' (Cooper, 2001, p.304).

On the other hand, critics of the MBTI have pointed out shortcomings of the instrument in two areas: their validity and reliability. Clearly one has to subscribe to Jung's theory of personality types, which places individuals into the categories of personality constructs posited by the MBTI, to accept the validity of the MBTI. Even so, Non-Jungian psychologists express doubts about the type of theory of personality and tend to ignore the considerable body of evidence regarding the validity of the MBTI that now exists. When individuals retake the MBTI, the test-retest reliabilities 'show consistency over time, with levels of agreement much greater than by chance. When subjects report a change in type, it is most likely to occur in only one

preference, and in scales where the original preference score was low' (Cooper, 2001, p.306).

2.5.3.2 Personality and Teaching Preferences

Personality types can be used to describe both the processes of learning and the processes of teaching foreign languages. In a study dealing with adult language learning styles and strategies, Ehrman and Oxford (1990) say that 'effective foreign language learning appears to depend on mobilization both of the strategies associated with one's native learning style preferences, which are indicated by the four MBTI letters, and of the strategies with less preferred functions that are opposites of the four letters of a person's type' (p.311). As a result, what contributes most to successful learning outcomes is the individual's ability to utilize a wide range of learning styles and strategies, both those already fully developed in the personality as well as those not readily accessible.

Since every foreign language teacher once was a foreign language learner, the strategies and styles preferred by the learner will inevitably inform those of the teacher (Lawrence, 1997, pp.74-80). His research shows that teachers generally prefer to teach in a way that satisfies their own way of learning. For instance, teachers who are rated as extraverted on the MBTI like to engage in class discussions on topics. They like to have students share personal experiences, events, and ideas with the class because they themselves need opportunities to think out loud to clarify and develop their own ideas and thoughts. Alternatively, teachers who are introverts prefer to work internally with their own thoughts and present the results of their work in forms they let them keep their privacy. They give more written

assignments than oral presentations, because they feel that students perform better in written work. They prefer to let students set their own standards whenever possible.

Sensing-type teachers tend to emphasize facts and practical information. They like to provide students with concrete experiences in a learning sequence before using the text book, and think that students learn best from an orderly sequence of questions about a topic that results in predictable responses. Intuitive-type teachers, on the other hand, emphasize the concepts and implications rather than details. They provide a wide range of choices for students and encourage their participation in decisions about how assignments are to be carried out. Such teachers foster independence and creative behaviour in their students.

Teachers with a preference for thinking tend to make few comments about the performance of their students; and if they do, they try to be as objective as possible even though this stance may sometimes appear impersonal. They pride themselves on lessons that are logically organized and easy to follow. Feeling-type teachers, on the contrary, 'regularly provide both praise and criticism in their words and body language. They like students to spend time on individual work, and they move from student to student to assist them' (Cooper, 2001, p.304).

Judging-type teachers set and adhere to schedules and maintain quiet, structured, and orderly classrooms. In contrast, teachers with a preference for perceiving encourage independent work, open-ended discussion, and socializing in groups, and allow students to have a voice in decisions.

2.6 Cook's Classification of Teaching Styles

Many researchers define the teaching style as a combination of teaching methods, techniques and strategies of a teacher, one has to discriminate the meaning conflict between teaching technique and teaching style.

According to Cook (1991), the actual point of contact with the students is the teaching technique. Thus a structure drill in which student intensively practice a structure is one technique; dictation is another, information-gap exercises another, etc... As Clark (1994) says 'a technique is a label for what we do as teachers' (cited in Cook, 1991, p.132). Teachers combine these techniques in various ways within a particular teaching style.

A teaching style is a loosely connected set of teaching techniques beleved to share the same goals of language teaching and learning. The word 'style' partly refers to the element of fashion and changeability in teaching (Cook, 1991, pp.132-133).

At this point it is significant to mention Cook's six major teaching styles which are related to L2 learning research. These styles which are described in detail are listed below:

- 1) The Academic Teaching Style (common in academic classrooms).
- 2) The Audiolingual Style (emphasizes structured oral practice).
- 3) The Social Communicative Style (aims at interaction between people).
- 4) The Information Communicative Style (stresses information transfer from one person to another).
- 5) The Mainstream EFL Style (combines aspects of the first three). And finally,
- 6) Other Styles that looks beyond language itself.

1. The Academic Teaching Style

The academic teaching style is characterized by teaching techniques of grammatical explanation and translation. An advanced foreign language lesson in an academic context often consists of a reading text taken from a newspaper or a similar source. The teacher leads the students through the text sentence by sentence. Grammatical points of interest are discussed with students. The academic teaching style is widespread in the teaching of advanced students in university systems around the world. The academic style occurs even when the teacher is using other styles. For instance, the teacher explains how to apologize in the target language, s/he gives the grammatical explanation of present perfect tense, s/he describes where to put the tongue to make the sound /-/. All of these are slipping into an academic style.

The academic teaching style does not directly teach people to use the language for some purpose outside the classroom. Additionally, it tries to train the students to think better, to appreciate other cultures, and to foster other educational values (Cook, 1991, p.133).

Its view of learning emphasizes the teaching of grammatical competence as rules of traditional type and as lists of vocabulary. Students are seen as acquiring knowledge of language rather than communicative ability directly. The classroom is similar to classrooms in other school subjects, with the teacher as a fount of knowledge and advice. It can be easily inferred that it matches with the teacher as the explainer, one of which is the classification of Scrivener (1994).

The academic style is appropriate for a society or an individual that treats academic knowledge of the L2 as a desirable objective and that holds a traditional

view of the classroom and of the teacher's role. However, Cook also notes its weakness as a widely used teaching style. That is, it does not give importance to other components of language knowledge or use (p.134).

Cook underlines that the academic style caters for academically gifted students, who will supplement it with their own language learner strategies, and who will probably not be young children. Finally a question may emerge one's mind. It has some weaknesses although it is useful for academically gifted students. So when should the academic style be used? Cook's response to this question is very clear. If the society and the students treat individual goals as primary, language use as secondary, and the students are academically gifted, then the academic style is appropriate (p.134).

2. The Audiolingual Style

It is reported by many researchers who favor audiolingual style that language is a set of habits, just like driving a car. Each habit is learnt by doing it again and again. The dialogues concentrate on unconscious 'structures' rather than the conscious 'rules' of the academic style. Instead of understanding every word or structure, students learn the text by heart. Though few teachers employ a 'pure' audiolingual style, many of the components are common in today's classrooms. The use of short dialogues, the emphasis on the student speaking, the division into four skills, the importance of vocabulary control are some of the examples that Cook (1991, p.136) gives in her book.

Cook (1991) states the goal of the audiolingual style as to get the students to 'behave' in common L2 situations, such as the station or the supermarket. Therefore

it is practical and communication-oriented. The audiolingual style is not learning language for its own sake but learning for actual use, either within the society or without (p.136). The appropriate student type is not restricted to academically gifted students.

Syllabuses and textbooks in the audiolingual style see structures, phonemes, and vocabulary items as the sum total of language. According to Cook (1991) the weakness of this style is it pays little attention to the distinctive features of each four skills although it is based on the four skills of listening, speaking, reading and writing. Providing that the communication is the goal of language teaching, its content needs to be based on an analysis of communication itself, which is not covered properly by structures and vocabulary (p.137).

Cook suggests that teachers should use this style for certain aspects of language only and be aware of audiolingual basis for many everyday techniques.

3. The Social Communicative Style

The core principle of this style is to develop the students' ability to use the language appropriately rather than knowledge of grammatical rules. It means that the teaching is based on communication. Hence a number of techniques developed that evolved into two distinct styles, which Cook (1991) calls 'social communicative' style and 'information communicative' style (p.139). The social communicative style has its main emphasis on the functioning of two people in a situation, what Halliday (1975) terms the 'interpersonal' function of language (cited in Cook, 1991, p.139). The common techniques are information gap activities and guided role-play.

In the social communicative style language is defined as communication between people, rather than as texts or grammatical rules or patterns. Thus, language is for forming relationships with people and for interrelating with them.

The classroom is a very different place in the social communicative style. The teacher is not a dominant figure continuously controlling and guiding the students. Rather the teacher takes one step back and lets the students take over the activities, making up their own conversations in pairs or groups. A key difference is that students are not expected to make errorless sentences as in the other styles. Instead they use whatever forms and strategies they can devise to solve their communication problem. It is also necessary to emphasize that the style is potentially limited to certain types of student. For instance, it can benefit field-independent students rather than field-dependent students, extroverts rather than introverts, and less academic students rather than academic students (Cook, 1991,p.140).

She also suggests that teachers should use this style with appropriate students in appropriate circumstances and supplement it with other components of language (p.142).

4. The Information Communicative Style

Cook (1991) reports that ‘the social communicative and information communicative styles are in a sense two sides of the same coin’ (p.143). A conversation requires not only someone to talk to but also something to talk about. Nevertheless communication can be seen as an exchange of ideas rather than as relationships with people. On account of this, teaching that emphasizes the

information that is transferred rather than the social interaction between the participants can be called the information communicative style.

The overall goal is to get students to use the language, first by comprehending then by producing. In terms of classrooms, it is the teacher who dominates the class with the teacher supplying, in person or through materials, the language input and the organization of the students' activities and classroom strategies.

The style links listening and speaking in a conversion model. Listening is not just a separate skill from speaking, but forms the foundation for speaking. Knowledge acquired by listening converts into knowledge of speaking. However, Cook reports that one weakness of this style is that listening tasks often train people to do listening tasks rather than to engage in interaction in the world outside (p.144). She suggests that teachers should adapt to goals of students and to less classroom-based language. In particular the listening tasks can be chosen to correspond to those the students will meet in the world outside the classroom. Moreover, she suggests that teachers should develop specific processes of listening, such as access to vocabulary and relating the text to prior knowledge (p.145).

5. The Mainstream EFL Style

Cook (1991) notes that the mainstream EFL style has developed in British-influenced EFL from the 1930s up to the present day. Till the early 1970s, it mostly reflected a compromise between the academic and the audiolingual styles. Recently it has taken on aspects of the social communicative style (147).

The overall goal of this style is to get students to know and use language. The goals are in a sense updated versions of audiolingualism. What counts is how students use language in the real-world situation rather than their academic knowledge. One of the mainstream EFL teaching style's assumptions is if the student does not benefit one part of the lesson, then another part will help. One student benefits from the grammatical explanation, another from structure practice, another from role-play. At this point Cook says, 'combining these techniques together will suit more of the students more of the time than relying on a purer style.'

The mainstream EFL style has some weaknesses when it is viewed from L2 research perspective. Firstly it is a combination of other styles. In terms of teaching methods, this has been discussed in terms of 'eclecticism' (Cook, 1991, p.147). It may be a weakness since some researchers argue that there is nothing wrong with eclectic mixing of methods if the mixing is rationally based. Others claim that it is impossible for the students to learn in so many ways simultaneously. However, Cook (1991) suggests that the teachers should bear in mind that none of the teaching styles is complete and the teachers using the mainstream EFL style should not worry about the mixture of different sources.

6. Other Styles of Language Teaching

As it is mentioned in Cook's book (1991), other teaching styles are very different from those outlined above, either in their goals or in their execution. According to many researchers it is difficult to assign these a single name. Therefore they are defined under one general heading. Some have been called 'alternative methods', but this suggests that there is a common conventional method to which

they provide an alternative. Likewise some are referred to as ‘humanistic methods’ because of their links to ‘humanistic psychology’. Others are called ‘self-access’ or ‘self-directed learning’.

CLL, which stands for Community Language Learning, is one of the ‘humanistic’ methods that include Suggestopedia with its aim of relaxing the student (Lozanov, 1978), the Silent Way with its concentration on the expression of meaning through coloured rods (Gattegno, 1972), and Confluent Language Teaching with its emphasis on the classroom experience as a whole (Galyean, 1977) (cited in Cook, 1991, p.149).

The goal of teaching is to develop the students’ potential and to enable them to ‘come alive’ through L2 learning, not to help them directly to communicate with others outside the group. Thus, it regards language teaching in terms of individual goals. A strong similarity between humanistic styles is that they enable students to get rid of distracting factors (Cook, 1991, p.149). If the teachers provide stress-free, non-dependent, value-respecting teaching, students will learn. That being so a black box model of learning is invoked. At this point, Cook utters that ‘while no-one knows what mechanisms exist in the students’ minds, we know what conditions will help them work’ (p.150). This is regarded as one of the weaknesses of these humanistic styles. In a similar manner, while the humanistic styles take pride in their learner centredness, they take little account of the variation between learners. CLL, for instance, appeals to extrovert students rather than introverts (Cook, 1991, p.150).

An opposing trend in teaching styles is the move towards learner autonomy. The aim here is to hand over responsibility for learning to the student. The teacher is a helper who assists with choice of materials and advises what to do but does not

teach directly. Cook (1991) states, 'By becoming autonomous, that is by gradually and individually acquiring the capacity to conduct his own learning programme, the learner progressively becomes his own teacher and constructs and evaluates his own learning programme himself' (p.150).

The diversity of L2 teaching styles bring about a question: 'How can students really be learning language in so many ways?' Cook's answer to this question is as follows:

'Such diversity reflects the complexity of language and the range of students needs so why should one expect that a system as complex as language could be mastered in a single way? Even adding these teaching styles together gives an inadequate account of the totality of L2 learning. Second language learning means learning in all of these ways and in many more. As teachers and methodologists become more aware of L2 research, the teaching methods will alter to take them into account and cover a wider range of learning. To improve teaching we need to appreciate learning in all its complexity' (pp.151, 152).

She also suggests the teachers should get on with meeting the needs of the students, even if they don't know enough about L2 learning because they have to teach rather than wait for a whole new L2 learning framework to emerge. To serve the unique needs of actual students, the teacher needs to do whatever is necessary, not just that which is scientifically proven and based on abstract theory (p.152).

2.7 Matching Teaching to Learning Styles

As a response to teachers' frustration of failing to meet the needs of the wide variety of students in the classroom, educational leaders have searched, for many years, for alternative instructional approaches or methods. One of the newly developed approaches claiming to meet the wide range of individual differences among students, as mentioned before, is the "learning style" approach. Students learn in many ways- by seeing and hearing; reflecting and acting; reasoning logically and intuitively; memorizing and visualizing. Teaching methods also vary. Some instructors lecture, others demonstrate or discuss; some focus on rules and others on examples; some emphasize memory and others understanding. How much a given student learns in a class is governed partly by that student's native ability and prior preparation but also by the compatibility of his or her characteristic approach to learning and the instructor's characteristic approach to teaching (Felder & Henriques, 1995, p.21).

However, serious mismatches may occur between the learning styles of students in a class and the teaching style of the teacher, with unfortunate potential results. (Felder & Henriques, 1995, p.21). Smith & Renzuli (1984) mentions some of these unfortunate consequences such as bored and inattentive students in class, students doing poorly on tests, getting discouraged about the course (p.46). Furthermore instructors, confronted by low test grades, unresponsive or hostile classes, poor attendance, and dropouts, may become overly critical of their students or begin to question their own competence as teachers.

In a similar manner, Dunn & Dunn (1993) note that academic achievement and improved attitudes toward learning evidences when students' learning styles are

matched with complementary methods or materials (p.393). They also mention about studies of Adams (1983), Cafferty (1980), and Mehdikhani (1980), who have found a positive relationship between how each teacher taught and how well his or her students achieved. In each case, the closer the match between the teacher's teaching style and the student's learning style, the higher the student's grade-point average (Dunn & Dunn, 1993, p.393).

It is also possible that matching teaching methods to learning styles preferences helps eliminate barriers to learning which arise when we fail to address the affective responses various teaching modalities elicit from students (Smith & Renzuli, 1984, p.47). It seems obvious that depending on the teaching approach being used, different demands are placed on students and different skills are required to perform successfully. Lecture, for example, is a relatively structured form of instruction with communication flowing in one direction, which is from teacher to student. Students are required to listen to information and ideas that have been organized and sequenced for them. There is little initiative or choice making required. Smith and Renzuli (1984) state that independent study, on the other hand, calls for an entirely different set of student behaviours (p.47). This style of learning is characterized by freedom from constant supervision and by individual or small group decision making. Typically, students are required to choose an area of study, develop an approach to gathering information, synthesize findings, and produce some kind of an outcome, such as an oral presentation or a written report.

Nevertheless, Smith and Renzuli (1984) strongly suggest that matching teaching and learning styles does not mean that teachers need to accommodate learning style preferences on all occasions for all students. Indeed, there are times

when it is important to introduce alternative learning style approaches or to decide which approach will most efficient transmit information to be covered (p.47). What they mention, in other words, is that learning style preferences vary among individuals and that efforts should be made to understand these differences and alter instructional style at times modifications are possible.

2.7.1 Using Learning Style Theories in Classrooms

How can learning style theories be used in classrooms? According to Guild (1990), there are broadly three different approaches to applying learning style theories in the classroom. One is focusing on the individual; know yourself and the other person you are interacting with. Guild regards “personal awareness” as an important aspect of learning style theory. In her opinion, “it is very important for educators when working with other people to understand both their own and the other’s perspectives” (in Brandt, 1990, p.10). Another aspect of learning style is application to curriculum design and the instructional process. It is now well known that people learn in different ways, so educators can use a comprehensive model that provides for adapting instruction to the major learning differences.

Friedman (1984), on the other hand, observes more or less the same aspects of learning styles approach when trying to draw principles of application from the research in the field. The first principle he suggests is that it is possible to identify students’ learning styles and the teachers’ teaching styles. Dunn (1990), Keefe & Ferrell (1990) have demonstrated the feasibility of classroom applications of learning style instruments. However, there has been less research in the area of teaching styles than there is in learning styles. Nevertheless there are instruments developed by

Gregorc in 1977 and Entwistle in 1981 for identifying teachers' preferred styles for teaching (Friedman & Alley, 1984, p.77). Friedman and Alley further suggest that teachers are more likely to develop strategies that are congruent with their own learning styles rather than those of their students if they are unaware of learning or teaching style literature. Teachers have the tendency to think that everybody can learn best in the way they have learned or are learning. From this assumption, Friedman implies that teachers must guard against over-teaching by using their own preferred learning styles. Instead they should broaden their teaching strategies to provide opportunities for students with different learning style preferences.

The third principle is that teachers should help students in identifying and learning through their own learning preferences. Friedman and Alley find this principle important because "it supports the premise that students are capable of guiding their own learning when given the opportunity" (p.78). That students should be given the opportunity to learn through their preferred style in the classroom is a fourth principle, which, Friedman says, "is implicit in the assumptions underlying the learning styles movement" (p.78). However, it is not enough for students to learn only through their preferred styles; they should also be encouraged to diversify their style preferences. He states, "This style flex is essential in a complex society which places increasing value on visual or auditory learning but insists that its youth be able to manipulate the computer keyboard with the same facility with which they read a newspaper or listen to a lecture" (p.78). Speaking to this point, Dunn (1990) and Carbo (1990) hold the view that a certain percentage of the school population is tactually or kinesthetically-oriented in their learning preferences. They also believe

that traditional instruction is generally based on audio or visual modalities as primary teaching styles.

The sixth principle Friedman (1984) maintains is that teachers can develop specific learning activities that reinforce each modality or style. The degree to which teachers are able to develop teaching activities and materials related to basic styles will largely determine the success of the movement, according to many advocates of the learning style approach.

As it is apparent, Guild (in Brandt, 1990, p.10) and Friedman and Alley (1984, p.78) focus on similar things in terms of application of the learning style approach: Personal awareness about learning/teaching styles, adjusting curriculum and instructional processes to the major learning styles, matching teaching styles and materials teaching styles and materials to individual differences are important aspects of the learning style paradigm in terms of its application in the classroom.

Is it possible for teachers to respond to students multiple learning styles in a classroom in a class with more than 30 students? Dunn (1990) says, "It is neither impossible nor difficult to respond to individuals strengths; one merely needs to learn how" (p.18). By redesigning a classroom, teachers can address 12 elements of learning style, and that does not take much time. Teaching both globally and analytically eradicates another major problem. By learning how to lecture and simultaneously respond to each student's perceptual strengths, teachers may eliminate another problem. By teaching students to study and do their homework at their best times of day, teachers can manage that component. So according to Dunn (1990), it is possible to apply the principles of the learning styles approach in the classroom (p, 18).

2.7.2 Why to Base Teaching on Learning Styles of the Students

Whenever recommendations are made for new ways of doing things in the classroom, the question ‘why?’ is always asked. Why is it necessary to modify instructional practices; will it enhance the effectiveness of teaching or will it simply complicate the teaching?

According to the style theorists, broad modifications remove barriers to learning and enhance student achievement. Students are not failing because of the curriculum. They can learn almost any subject matter ‘when they are taught with methods and approaches responsive to their learning style strengths’ (Dunn, 1990, p.18). Nonetheless, those same students fail when they are taught in an instructional style unrelated to their strengths.

Many schools that have experimented with approaches to style, using one or a combination of various style models currently available, report that using the technique allows more students to succeed and erodes the argument that students who misbehave or fall behind academically in traditional classrooms have limited learning ability (Çekiç, 1991, p.29).

Confirming the broad impact of a school-based learning styles program, many advocates (Dunn, 1990; Carbo, 1990) say at-risk students, whose personal behaviours, past educational records, or family problems increase the chance of failure, have the most to gain from style-based learning. In many schools, they say, the lack of alternatives to lecture and textbook-based teaching, classroom design, or grouping factors works against under-achieving students.

The students who are regarded as underachievers or dropouts of the system are most probably those whose styles are mismatched. If the students, who prefer to study in soft light, in an informal design, or sociologically, like to study with peers, are put in an environment that does not match their preferences, they are likely going to suffer from failure, states Carbo (1983). Similarly, Dunn (1990) believes that classroom design and rules restricting student movement are primary reasons students are labeled as underachievers and problem students. They are problems because they cannot sit still and they cannot learn the way they are taught (as cited in Çekiç, 1991, p.30).

In this respect Cheng and Banya (1998) state that teaching behaviour in the classroom can significantly affect learner achievement (p.80). Specifically, teachers have styles that they use as they plan and present material to their students. They also mention that teachers often mirror their learning styles in their teaching styles (p.80). In other words, most teachers teach the way they were taught or the way they learned. Yet research has demonstrated that higher student achievement relate to a match between student learning styles and teacher teaching styles (Dunn and Griggs, 1995, p.16; Cheng and Banya, 1998, p.80, Dunn and Dunn, 1993, p.393). Moreover in their article, Smith and Renzuli (1984) report that learning style matching has a positive impact on student achievement, interest and motivation. So the students learn best when style as well as the pace of instruction is varied within the classroom (p.49).

Smith and Renzuli (1984) utter that ‘alert teachers have always been aware of the fact that when they change their method of teaching, certain children who had appeared to be slow learners or even non-learners become outstanding achievers’

(p.49). Many advocates of learning and teaching style think that there is no single teaching approach which works out in the classroom. What is more every technique has its advantages and disadvantages and may be differentially effective depending on many factors. For this reason, Smith and Renzuli (1984) suggest that ‘a teacher who can purposefully exhibit a wide range of teaching styles is potentially able to accomplish more than a teacher whose repertoire is relatively limited.’ (p.49). Therefore, improving the quality of instruction may thus be tied to increasing the variety of instructional techniques used in the classroom.

CHAPTER 3

METHODOLOGY

3.1 Introduction

In recent years research has identified factors that account for the differences in how students learn and in what ways they differ. Among these factors, learning styles, which are known as preferred or habitual patterns of dealing with information, have been the focus of research in general education as well as in foreign language teaching and learning.

Research on learning styles in education has revealed that there is a relationship between matching instructional approaches to the style preferences of individual learners and the learners' achievement (Dunn & Dunn, 1993, p.393; Dunn, 1990, p.15; Carbo, 1984, p.73). According to these researchers, when students are taught with approaches that match their preferences, they demonstrate higher achievement. In addition, they claim that learner style preferences are persistent even though the content may change, and that individuals are able to identify these preferences especially the major and the negative ones, by means of self-report questionnaires.

Using the Learning Style Inventory (LSI) in research on good and poor readers' perceptual learning style preferences in the United States, Carbo (1984) found that poor readers were tactile and kinesthetic whereas good ones were auditory or visually oriented (p.75). In another research on the same topic, Reid (1987) found that there was a relationship between perceptual learning style preferences and various background variables, such as age, sex, and native language of the foreign English learners studying in the United States (p.88). Similarly, Çekiç (1991) in his

study administered in Prep Classes of Eskişehir Anadolu University, where he used Reid's perceptual learning style questionnaire, found that there was a relationship between the academic achievement of the students and their perceptual learning styles (p.53).

This study seeks to determine the learning style preferences of the students and teaching style preferences of their teachers in Anatolian High Schools in Ankara. In particular, the similarities and differences of the perceptual learning styles of the students and the perceptual teaching styles of their teachers are identified by means of Reid's PLS questionnaires. An additional goal of this study is to find out whether the teachers vary their instructional methodologies according to their students' needs and interests and individual differences or not. Consequently, a more detailed teaching style inventory was delivered to English teachers in Anatolian High Schools in order to identify their teaching methods, techniques and approaches.

3.2 Subjects

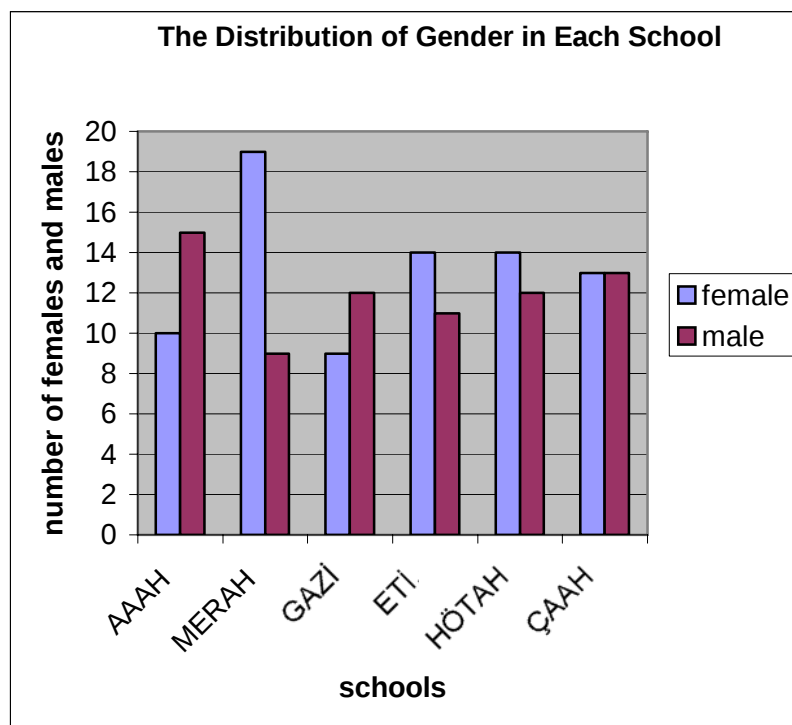
This study took place at six different prep classes of Anatolian High Schools in Ankara, which offer full-time intensive language training for High School students. These schools are Ankara Atatürk Anatolian High School, where 360 students learn English at prep classes; Gazi Anatolian High School with 213 prep class students; Mehmet Emin Resulzade Anatolian High School, where 135 students learn English at prep classes; Etimesgut Anatolian High School, where 170 prep class students learn English; Hacı Ömer Tarman Anatolian High School, where 110 students study English at prep classes, and Çankaya Atatürk Anatolian High School with 328 prep class students. The number of the students, which are included in the

study from each school and the number of female and male students in each group, is not equal. However, number of the teachers, to whom perceptual teaching style questionnaire is applied, is equal since only the teachers, whose students are given learning style questionnaires, are included in this study. As one class from each school was exposed to the study, there are six teachers who are given perceptual teaching style questionnaires.

It is also important to note that vocational and technical Anatolian High Schools are not the target of this study since it will be very difficult to administer the questionnaires at every school in Ankara.

This study utilized 151 students. Of the 151 participants, 77 were females and 74 were males. The distribution of gender at each school is shown in Chart 3.1

Chart 3.1 The Distribution of Gender at Each School



As it is shown above, of the 25 students in Ankara Atatürk Anatolian High School, 15 were males and 10 were females. The population of the students who participated in the study was 28 in Mehmet Emin Resulzade Anatolian High School. 19 of this population were females and 9 were males. Of the 21 students in Gazi Anatolian High School, 12 were males and 9 were females. 11 females and 14 females participated in this study from Etimesgut Anatolian High School. Moreover, of the 26 students in Hacı Ömer Tarman Anatolian High School, 12 were males and 14 were females. The number of the participants in Çankaya Atatürk Anatolian High School was also 26, and number of females and males were equal.

It is also necessary to emphasize that all the students were exposed to an exam in order to attend these schools. Therefore, all these learners might be considered as successful, at least hardworking students since they succeeded in the Entrance Exam for Anatolian High School. Most of them chose Mathematics and Science when they were asked their favourite subject at secondary school. Thus, it confirms their achievement in the examination since the exams usually require mathematical knowledge. In other words, unfortunately, only the students who have logical/mathematical or verbal intelligence can be successful in such examinations. Also, one of the important points about the subjects is almost all of the students were taught English as a foreign language for six years before they attended prep classes. The students' age ranged from 14 to 16. But most of the students were 15 years old.

Students' responses to the question 'Why do you need to learn English?' in the first part of the questionnaire were very striking. The fact that English is the most widely spoken language in the world is a common view of the participants. It is generally monitored by the researcher that students tend to explain their opinions

with good reasons. They generally think that they had better learn English because it is an international language. Communication with people from other countries is another reason to learn English for the participants. Furthermore, most of them think that they need to learn English since most good jobs require a good command of a foreign language. Additionally, there are some students who think learning English helps to broaden their horizons, learn about other countries' culture. They also think they can adapt to the innovations throughout the world by means of a foreign language. What's more, most of them think knowing one language is not adequate to follow these innovations all over the world. It is also interesting to note that some of the students are thinking of taking place in scientific studies so they need to learn English to read the scientific resources. Nevertheless, there are few students who think learning English is not necessary and they claim that they learn English because it is obligatory at every Anatolian High School.

These students study English 25 hours per week on average. At every school the students are taught English with a communicative course book such as *Cutting Edge*, *Opportunities*, and *Enterprise*.

As expected, the second group of subjects consisted of six language teachers, all of whom were females. The teacher at Ankara Atatürk Anatolian High School has been teaching English for 8 years while the one at Mehmet Emin Resulzade Anatolian High School has an experience of 10 years. Furthermore, the teacher at Çankaya Anatolian High School has an experience of 13 years. The other three teachers all have been teaching English for 15 years.

3.3 Instruments

Instruments used in this study included a Perceptual Learning Style Questionnaire, a Perceptual Teaching Style Questionnaire, and a Teaching Style Inventory.

3.3.1 The Perceptual Learning Style Questionnaire

The questionnaire used in this research consisted of three sections: questions on the background information of the informants, the instructions, and the statements related to perceptual learning style preferences. It was originally developed by Reid (1987, 1998). The original questionnaire, which was reported to be constructed and validated for non-native English speakers, consisted of randomly arranged sets of five statements on six different learning style preferences: visual, auditory, kinesthetic, tactile, group learning, and individual learning. The questionnaire was evaluated on a five-point scale, which is called Likert scale. Seliger & Shohamy (1989) defines Likert Scale as a tool which ‘asks individuals to respond to a series of statements by indicating whether they strongly agree (SA), agree (A), are undecided (U), disagree (D), and strongly disagree (SD) with each statement’ (p.173). They also report that ‘strongly agree’ (SA) may be assigned a weight of 5 points, while ‘strongly disagree’ (SD) may get a score of 1 (p. 173).

The questions obtaining background information were substituted by more relevant ones in the first part of the questionnaire. What’s more, the questions were translated into Turkish without changing the content. As the original questionnaire was in English and as translating it in Turkish might affect its reliability, a pilot test of the instrument was conducted with sixty students from Gazi Anatolian High

School. When the pilot test was carried out, it showed that the statement 11 (see Appendix 1) were sometimes problematic due to the word 'model'. So it was decided that the researcher should be present in the class when the questionnaire was being administered to avoid any problems of misinterpretation. Because the instrument was translated into Turkish, the reliability of the questionnaire was figured out in SPSS, and alpha reliability coefficient was figured out as 0,82 that is considered as a reliable score according to many researchers.

Reid's perceptual learning style was chosen because it was appropriate for nonnative speakers of English and efficient to administer, requiring about twenty minutes.

3.3.2 Perceptual Teaching Style Questionnaire

Like the other instrument, it consisted of six sets of five statements, each set referring to one element of perceptual teaching style preferences. This questionnaire was, in fact, adapted from the first one described above. After consulting colleagues and experts in the field of language teaching, Reid's Perceptual Learning Style Preferences was rewritten by the researcher using also Wingate's teaching style questionnaire and adapted as a Perceptual Teaching Style Preferences Questionnaire. Another pilot survey was carried out with this instrument before using it in this research, and it was observed that the instrument appeared to function well with the English teachers.

Unlike the Perceptual Learning Style Questionnaire, this instrument was in English. Moreover, it was delivered to the teachers whose students were taking perceptual Learning Style Questionnaire.

Each set of statements in these two instruments was arranged randomly and referred to certain elements of perceptual style preferences. For example, ‘I use visual aids such as pictures, drawings, and diagrams’ and ‘I use the blackboard while presenting the new subject’ refer to the visual teaching style (see Appendix 2).

Perceptual teaching style questionnaire was also evaluated on a five-point scale; from strongly agree to strongly disagree. The Perceptual Teaching Style Questionnaire took fifteen minutes on average to administer.

3.3.3 Teaching Style Inventory

This questionnaire, which is adapted from Dunn & Dunn’s (1993) Teaching Style Inventory, is more detailed and consists of seven parts. However, the original Teaching Style Inventory consists of nine parts. They are 1) Instructional Planning, 2) Teaching Methods, 3) Student Groupings, 4) Room Design, 5) Teaching Environment, 6) Evaluation Techniques, 7) Educational Philosophy, 8) Teaching Characteristics, 9) Student Types.

Evaluation Techniques and Student Types are excluded from the questionnaire since they are irrelevant to the subject. To explain it more clearly, ‘Evaluation Techniques’ encompass the methods the teacher uses to assess the progress of individual students. Testing, observations, performance assessments are part of the assessment of each student. As evaluation is not the subject of this research, it is not included in this study. However, the reason why the part ‘Student Types’ is excluded is different since it does not take place in the original questionnaire, either. Furthermore, the items were not expressed in whole sentences

in the original questionnaire, so the phrases are transformed into sentences to explain the concepts clearly (see Appendix 3).

It is necessary to give brief information about each part of the inventory at this point. **Instructional Planning** encompasses the diagnosis, learning prescriptions, and evaluations completed for each student or group of students. Knowledge of each student's ability, learning style, interests, skill development, ability to retain information are essential to the diagnosis. Therefore, statements about instructional design, materials, techniques and multisensory learning activities are included in this part of the inventory.

Teaching Methods refer to the teacher's behaviour in the learning environment- the way he or she groups the students for learning, designs and assigns resources, uses interaction techniques with students, and employs basic approaches to the teaching and learning of each student.

Student Groupings are defined as the way a teacher assigns or permits learning to occur in small groups, pairs, individuals, large groups, varied groups, or one-to-one tutoring. According to Dunn & Dunn (1993) a teacher should have a series of alternative grouping strategies that provide a wide range of interesting activities since different students respond to varied sociological interactions (p.412).

Room Design reflects that ways in which the teacher divides, decorates, and designs instructional areas to match the characteristics of his/her students.

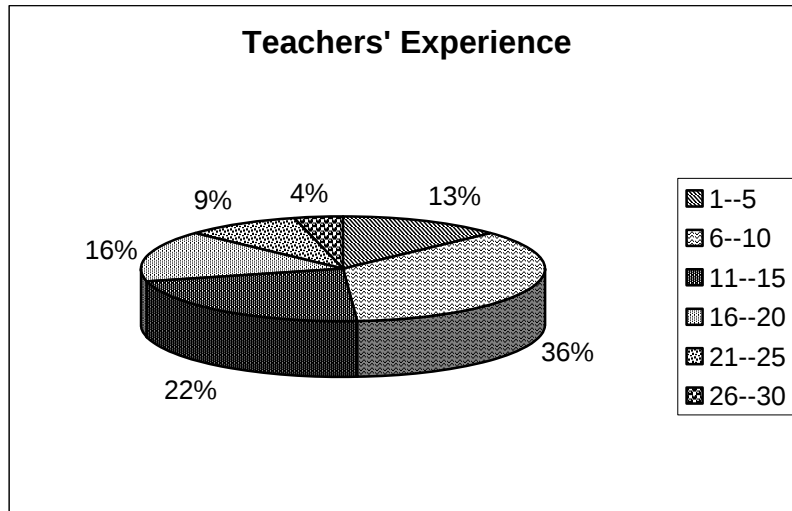
Teaching Environment includes time schedules, the different types of instructional stations and centers, the optional learning activities that are available, and provisions that are made for mobility, multilevel resources, and nutritional intake.

Teaching Characteristics are the values and standards a teacher holds. The degree of flexibility, the importance of what is learned, and the amount of direction given to students are examples of teaching characteristics.

Educational Philosophy refers to the attitudes a teacher holds toward key program descriptions, such as open education, a theme-centered curriculum, or a basic skills approach.

This questionnaire is delivered to 45 English teachers who were present and available at the time the questionnaire was being administered. Out of 24 English teachers in Çankaya Atatürk Anatolian High School, 11 of them could contribute to the study. However one of them was not included in the study since she marked ‘always’ for the items in the questionnaire from top to bottom. So it is considered that it may affect the reliability of the test and it was excluded from the study. There were 10 English teachers totally in Mehmet Emin Resulzade Anatolian High School, but 5 of them were given the teaching style inventory. The number of English teachers in Hacı Ömer Tarman Anatolian High School was 7 and only 3 of them responded to the inventory. The most crowded school in terms of students and teachers was Ankara Atatürk Anatolian High School. There were 25 English teachers although 10 of them were included in the study. On the other hand, Gazi Anatolian High School was the school where most of the teachers accepted to contribute to the study. There were 16 English teachers and 11 of them were included in the study. Finally, there were 11 English teachers at Etimesgut Anatolian High School, but 6 of them contributed to the study. The chart, which shows the participants’ teaching experience, is demonstrated below.

Chart 3.2 The Distribution of Teachers' Experience



As the chart shows, the experience of most teachers ranges from 6 to 10 years.

3.4 Data Collection

Having prepared the questionnaires, the researcher informed the Institute of Educational Sciences at Gazi University about the questionnaires which would be administered at some Anatolian High Schools in Ankara. A written consent was received from the Institute and was brought to National Education Directory of Province. After receiving the permission of National Education Directory of Province (see Appendix 4), the written consent was taken to National Education of Districts. The permission was obtained from 3 different districts, which are Yenimahalle, Çankaya, and Etimesgut (see Appendix 5,6,7). Finally, the administrations of the schools were informed of the study and they consented to contribute to the study. The next step was to select a prep class from each school. First of all, the teachers were notified about the questionnaires and requested to help

to carry out the study. As a class has more than one teacher, only the main course teacher was included in the administration of perceptual teaching style questionnaire in each school. However, the teaching style inventory, which is adapted from Dunn & Dunn (1993), was delivered to the other English teachers who were present and available at the time of the administration of the questionnaire.

It took 15 minutes to administer the perceptual teaching style questionnaire. In the meantime, the perceptual learning style questionnaire was delivered to the students and it took 25 minutes for them to answer the questionnaires. Although the learning style questionnaire was in students' mother tongue, the researcher told the students that they could ask anything they wanted in order to increase the credibility of the responses. She also told them the importance of their providing true answers.

Answers of students' and teachers' questionnaires were numbered as follows: 'Strongly agree'=5 'agree'=4 'undecided'=3 'Disagree'=2 'Strongly Disagree'=1. On the other hand, teaching style inventory, which had more respondents than the perceptual teaching style questionnaire, was analyzed according to its own evaluation technique, and was calculated accordingly. Besides it was analyzed via SPSS. The data obtained from the questionnaires were entered into the computer and the results of the students' perceptual learning style questionnaire were figured out via SPSS. On the other hand, Excel calculated the results of perceptual teaching style questionnaire. The analytical procedure is explained in detail below.

3.5 Data Analysis

The data analysis is a descriptive kind, which was done by analyzing each item. After the scores of each statement in Perceptual Learning Style Questionnaire

were computed, the means of all the answers were found for six schools separately in order to find out the extent to which each single item is preferred by each group of students. Then the mean scores for each learning style were calculated. According to Tekin, a table was formulated by assigning weights for each style preference for the interpretation of the questionnaire (in Ünsal, 2001, p. 39). The style preference level and the range of scores are given in the table 3.1. Each overall mean score pertaining to each learning style is discussed according to table 3.1, which made it possible to find out the degree of preferences of students rather than simply determining if a student prefers a certain style or not. As it is stated before, in students' questionnaires there are five response choices, which is indicated below:

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
(SA)	(A)	(U)	(D)	(SD)

There are 4 intervals in the Likert Scale and 5 attitudes. Thus, 4 is divided by 5 and the result is 0,80. According to responses the intervals, which highlight the style preference levels, are constructed. Table 3.1, which sheds light to the learning style preferences of the students, is indicated below.

Table 3.1 The interpretation of students' preferences on Likert Scale.

		Style Preference Level
1.00-1.80	SD	(Almost) Never Preferred
1.81-2.60	D	Rarely Preferred
2.61-3.40	U	Occasionally Preferred
3.41-4.20	A	Frequently Preferred
4.21-5.00	SA	(Almost) Always Preferred

As it is clearly seen on the table, the students' perceptual styles are evaluated in line with the students' responses in the questionnaire. If the students' overall mean of a certain perceptual style is between the 4.21 and 5.00, that perceptual style is considered to be the most preferred style among the students.

One of the most important points here is the answers of every student in each school were computed and analyzed separately, but perceptual style preferences are detected as a group. Since it would be very long and complicated to report each student's preference, the learning style preferences of each school were specified. The results of the perceptual learning style questionnaire were displayed in a table, which shows each statement of the questionnaire and the results of the scores were written.

For identifying the teachers' strongest preferences, similar procedures were followed. The results were computed first, and then the mean scores were calculated for each perceptual teaching style preference. In contrast to the learning style questionnaire, the frequency and percentage were not figured out in the SPSS program, as there were only six teachers.

After identifying the strongest learning and teaching styles, they are shown on a column chart in order to compare the results.

As it was stated before the teaching style inventory had its own evaluation technique so the scores were calculated not only by simply multiplying the item weight with the teachers' responses, but also analyzing via SPSS. In the original inventory, each statement had an item weight, but the teachers were not informed of this weight during the administration session as they could have the chance of marking the frequency accordingly (see Appendix 3). After the results were computed, the frequency and item weight were multiplied for each statement. Afterwards, the scores are added and an overall score was found out for every single part in the questionnaire. As there are seven parts in the inventory, it means that there are seven scores for each respondent's questionnaire. Finally, the results were added and divided by the numbers of the teachers, who contributed to the study, so an overall mean was found out for every part in the questionnaire. Furthermore, these overall scores of each school were evaluated separately on a pie chart. However, the results only illustrate to which extent teachers are individualized or traditional. In order to present each respondent's answer, the frequency, percentage, and mean scores are analyzed. Then they are shown in tables in detail.

CHAPTER 4

ANALYSIS OF THE DATA

4.1 Introduction

This analytical deductive study aims at determining the perceptual learning style preferences of students, and perceptual teaching styles of their teachers at prep classes of Anatolian High Schools in Ankara, hypothesizing that there might be a significant mismatch between the learning styles of the students and teaching styles of the teachers. Another hypothesis was that English teachers do not vary their instructional planning, teaching methods, and techniques according to their students' needs and learning styles. At the first stage, perceptual learning styles of the students at prep classes in Anatolian High Schools were discovered. Then perceptual teaching styles of their teachers were determined and they were compared with the learners' styles. Finally, teaching style inventory, which was given to the other English teachers at Anatolian High Schools, were analyzed and the results were again compared with the students' responses.

4.2 Results and Discussions

4.2.1 Results of Students' and Teachers' Questionnaires

The results of the perceptual learning styles and perceptual teaching styles are illustrated below. At this first stage, the overall mean scores of the perceptual teaching styles at each school are shown in table 4.1.

Table 4.1 The Overall Mean Scores of Each Perceptual Teaching Style at Anatolian High Schools

SCHOOLS	AUDITORY	VISUAL	KINESTHETIC	TACTILE	GROUP	INDIVIDUAL
Ankara Atatürk Anatolian H.S	3.40	4.20	5.00	4.80	4.60	3.20
Gazi Anatolian H.S	4.80	4.00	5.00	4.60	4.00	3.40
M.E Resulzade Anatolian H.S	4.20	3.40	4.20	4.00	4.60	2.80
Ç. Atatürk Anatolian H.S	4.00	4.20	4.80	4.40	5.00	2.00
H.Ö Tarman Anatolian H.S	4.20	3.40	3.20	3.40	4.20	3.00
Etimesgut Anatolian H.S	4.40	3.00	4.40	3.60	4.00	2.80

The scores of subjects at Ankara Atatürk Anatolian High School for their preferences in perceptual learning styles are shown in table 4.2. The frequency, percentage, mean, and standard deviation for each item of the questionnaire are illustrated in the table. In the table, the levels, which show to what extent the students agree with the statements, are indicated. “f” indicates how often each of the statements was selected by the group of students for the given situation. Then the percentage of the responses for each statement is displayed in the table. “N” refers to the total number of students who participated in the study. “ $\bar{x}$ ” refers to the mean of each questionnaire item, and “sd” refers to standard deviation. It is the square root of the averaged square distance of the scores from the mean. The higher the standard deviation, the more varied and more heterogeneous a group is on a given behaviour (Seliger & Shohamy, 1989, p.217). Below each section, the overall mean scores are illustrated for each learning style.

**Table 4.2 Distributions of LSPs for Preparatory Students at
Ankara Atatürk Anatolian High School**

	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		N	$\bar{x}$	Sd
	f	%	f	%	f	%	f	%	f	%			
1. When the teacher tells me the instructions, I understand better.	17	68,0	8	32,0	0	0	0	0	0	0	25	4,68	0,48
2. I remember things I have heard in class better than things I have read.	4	16,0	18	72,0	3	12,0	0	0	0	0	25	4,04	0,84
3. When someone tells me how to do something in class, I learn it better.	7	28,0	14	56,0	2	8	2	8	0	0	25	4,20	0,65
4. I learn better in class when the teacher gives a lecture.	8	32,0	14	56,0	3	12,0	0	0	0	0	25	3,64	0,87
5. I learn better in class when I listen to someone.	2	8,0	15	60,0	6	24,0	1	4,0	1	4,0	25	4,04	0,53
Overall Mean Score of Auditory Style												4,12	0,37
1. I learn better by reading what the teacher writes on the chalkboard.	9	36,0	15	60,0	1	4,0	0	0	0	0	25	4,32	0,56
2. When I read the instructions, I remember them better.	10	40,0	13	52,0	2	8,0	0	0	0	0	25	4,32	0,62
3. I understand better when I read the instructions.	11	44,0	14	56,0	0	0	0	0	0	0	25	4,44	0,50
4. I learn better by reading than by listening to someone.	6	24,0	9	36,0	10	40,0	0	0	0	0	25	3,84	0,80
5. I learn more by reading textbooks than by listening to a lecture.	5	20,0	9	36,0	7	28,0	4	16,0	0	0	25	3,60	1,0
Overall Mean Score of Visual Style												4,10	0,38

1. I prefer to learn by doing something in class.	11	44,0	14	56,0	0	0	0	0	0	0	25	4,44	0,51
2. When I do things in class, I learn it better.	11	44,0	11	44,0	3	12,0	0	0	0	0	25	4,32	0,70
3. I enjoy learning in class by doing experiments.	12	48,0	10	40,0	3	12,0	0	0	0	0	25	4,36	0,70
4. I understand things better in class when I participate in role-playing.	6	24,0	11	44,0	8	32,0	0	0	0	0	25	3,92	0,76
5. I learn best in class when I can participate in related activities.	10	40,0	10	40,0	4	16,0	1	4,0	0	0	25	4,16	0,85
Overall Mean Score of Kinesthetic Style												4,24	0,41
1. I learn more when I can make a model of something.	10	40,0	9	36,0	6	24,0	0	0	0	0	25	4,16	0,80
2. I learn more when I make something for a class project.	7	28,0	14	56,0	4	16,0	0	0	0	0	25	4,12	0,67
3. I learn better when I make drawings as I study.	7	28,0	11	44,0	7	28,0	0	0	0	0	25	4,00	0,76
4. When I build something, I remember what I have learned better.	11	44,0	8	32,0	6	24,0	0	0	0	0	25	4,20	0,82
5. I enjoy making something for a class project.	6	24,0	16	64,0	3	12,0	0	0	0	0	25	4,12	0,60
Overall Mean Score of Tactile Style												4,12	0,37
1. I get more work done when I work with others.	7	28,0	13	52,0	3	12,0	2	8,0	0	0	25	4,00	0,87
2. In class, I learn best when I work with others.	4	16,0	12	48,0	8	32,0	0	0	1	4,0	25	3,72	0,90
3. I learn more when I study with a group.	5	20,0	15	60,0	5	20,0	0	0	0	0	25	4,00	0,64
4. I enjoy working on an assignment with two or more classmates.	10	40,0	12	48,0	3	12,0	0	0	0	0	25	4,28	0,68
5. I prefer to study with others.	7	28,0	10	40,0	5	20,0	2	8,0	1	4,0	25	3,80	1,08
Overall Mean Score of Group Style												3,96	0,56
1. When I study alone, I remember things better.	9	36,0	12	48,0	4	16,0	0	0	0	0	25	4,20	0,70
2. When I work alone, I learn better.	10	40,0	10	40,0	5	20,0	0	0	0	0	25	4,20	0,77
3. In class, I work better when I work alone.	4	16,0	13	52,0	6	24,0	1	4,0	1	4,0	25	3,72	0,93
4. I prefer working on projects by myself.	4	16,0	12	48,0	7	28,0	1	4,0	1	4,0	25	3,68	0,94
5. I prefer to work by myself.	4	16,0	11	44,0	9	36,0	1	4,0	0	0	25	3,72	0,80
Overall Mean Score of Individual Style												3,90	0,54

The mean scores for each learning style indicate that kinesthetic learning is the most preferred (4,12), whereas individual learning style is the least preferred one (3,90). Even though the general tendency is toward kinesthetic learning, individual learners differ in their preferences for particular learning styles.

As it is explained in Chapter 3, to pinpoint the strongest style preferences of the students in each school, overall mean scores for each style is compared to the range of scores in table 3.1. According to this scale, the strongest learning style of this group is kinesthetic. Nevertheless, the scores for the other learning styles are also high. Thus, the individual learning style is also a highly preferred one, but it is considered to be the least preferred when they are evaluated as a whole. Consequently, it can be inferred that most of the subjects prefer a combination of styles.

The teacher of this class has the strongest preference for kinesthetic teaching style (5,00). It means that the teacher strongly agrees with all the statements about kinesthetic teaching preference. Therefore, most students, having the kinesthetic learning preference matched the style of their teachers. The teacher has the least tendency towards students' individual learning in class (3,20). At this point it is important to clarify that individual teaching style does not refer to the term 'individualized teaching', which is used in the teaching style inventory in this study since individualized teaching is a term used for instruction which focuses mostly on the student, his/her interests, needs, and learning styles. On the other hand, individual teaching style here is explained as getting students to work individually on an activity rather than having them work with a pair or group.

According to the table 3.1, the teacher can be considered to apply individual studying sometimes as the mean score is between 2,61 and 3,40.

The learning style preferences of the students at Mehmet Emin Resulzade Anatolian High School are indicated in table 4.3 below.

Table 4.3 Distributions of LSPs for Preparatory Students at Mehmet Emin Resulzade Anatolian High School

	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		N	$\bar{x}$	sd
	f	%	f	%	f	%	f	%	f	%			
1. When the teacher tells me the instructions, I understand better.	10	35,7	14	50,0	4	14,3	0	0	0	0	28	4,21	0,69
2. I remember things I have heard in class better than things I have read.	2	7,1	17	60,7	6	21,4	3	10,7	0	0	28	3,64	0,78
3. When someone tells me how to do something in class, I learn it better.	6	21,4	10	35,7	9	32,1	3	10,7	0	0	28	3,67	0,95
4. I learn better in class when the teacher gives a lecture.	5	17,9	17	60,7	6	21,4	0	0	0	0	28	3,96	0,63
5. I learn better in class when I listen to someone.	2	7,1	6	21,4	14	50,0	3	10,7	3	10,7	28	3,03	1,03
Overall Mean Score of Auditory Style												3,70	0,46
1. I learn better by reading what the teacher writes on the chalkboard.	15	53,6	9	32,1	1	3,6	3	10,7	0	0	28	4,28	0,98
2. When I read the instructions, I remember them better.	5	17,9	17	60,7	6	21,4	0	0	0	0	28	3,96	0,63
3. I understand better when I read the instructions.	10	35,7	11	39,3	5	17,9	2	7,1	0	0	28	4,03	0,92
4. I learn better by reading than by listening to someone.	4	14,3	10	35,7	9	32,1	5	17,9	0	0	28	3,46	0,97
5. I learn more by reading textbooks than by listening to a lecture.	3	10,7	8	28,6	12	42,9	4	14,3	1	3,6	28	3,28	0,98
Overall Mean Score of Visual Style												3,80	0,54

1. I prefer to learn by doing something in class.	13	46,4	11	39,3	4	14,3	0	0	0	0	28	4,32	0,72
2. When I do things in class, I learn it better.	14	50,0	11	39,3	3	10,7	0	0	0	0	28	4,39	0,69
3. I enjoy learning in class by doing experiments.	12	42,9	10	35,7	2	7,1	3	10,7	1	3,6	28	4,03	1,13
4. I understand things better in class when I participate in role-playing.	10	35,7	10	35,7	4	14,3	4	14,3	0	0	28	3,92	1,05
5. I learn best in class when I can participate in related activities.	7	25,0	10	35,7	8	28,6	3	10,7	0	0	28	3,75	0,97
Overall Mean Score of Kinesthetic Style												4,08	0,62
1. I learn more when I can make a model of something.	9	32,1	8	28,6	7	25,0	3	10,7	1	3,6	28	3,75	1,14
2. I learn more when I make something for a class project.	16	57,1	2	7,1	8	28,6	1	3,6	1	3,6	28	4,10	1,16
3. I learn better when I make drawings as I study.	6	21,4	13	46,4	6	21,4	2	7,1	1	3,6	28	3,75	1,00
4. When I build something, I remember what I have learned better.	6	21,4	8	28,6	9	32,1	4	14,3	1	3,6	28	3,50	1,10
5. I enjoy making something for a class project.	11	39,3	5	17,9	6	21,4	3	10,7	3	10,7	28	3,64	1,39
Overall Mean Score of Tactile Style												3,75	0,91
1. I get more work done when I work with others.	7	25,0	12	42,9	8	28,6	1	3,6	0	0	28	3,89	0,83
2. In class, I learn best when I work with others.	4	14,3	14	50,0	7	25,0	3	10,7	0	0	28	3,67	0,87
3. I learn more when I study with a group.	4	14,3	12	42,9	10	35,7	2	7,1	0	0	28	3,64	0,82
4. I enjoy working on an assignment with two or more classmates.	14	50,0	12	42,9	2	7,1	0	0	0	0	28	4,42	0,63
5. I prefer to study with others.	10	35,7	8	28,6	8	28,6	2	7,1	0	0	28	3,92	0,98
Overall Mean Score of Group Style												3,91	0,60
1. When I study alone, I remember things better.	8	28,6	11	39,3	8	28,6	1	3,6	0	0	28	3,92	0,86
2. When I work alone, I learn better.	4	14,3	10	35,7	11	39,3	2	7,1	1	3,6	28	3,50	0,96
3. In class, I work better when I work alone.	2	7,1	10	35,7	8	28,6	8	28,6	0	0	28	3,21	0,96
4. I prefer working on projects by myself.	4	14,3	9	32,1	12	42,9	2	7,1	1	3,6	28	3,46	0,96
5. I prefer to work by myself.	1	3,6	8	28,6	11	39,3	6	21,4	2	7,1	28	3,00	0,98
Overall Mean Score of Individual Style												3,42	0,72

It is seen in the table 4.3 that the mean scores of perceptual learning styles for this class are closer to each other. Thus, it can be derived that most of the students generally agreed with the statements, and rarely kept undecided. Of the overall scores, the highest mean score is the kinesthetic learning style (4,08). All the same, the mean scores of the other styles are as high as kinesthetic learning style since all of them are regarded as highly used learning styles according to table 3.1. Consequently, other styles cannot be underestimated and ignored.

The teacher of this class has a strong preference for group teaching (4, 60), which means the teacher makes the students study in pairs or groups so that they can interact with each other. Additionally, it is deduced that the teacher generally applies auditory (4,20) and kinesthetic (4,20) teaching styles in the classroom. The least preferred teaching style preference of this teacher is the individual teaching preference (2.80). Therefore, the learning style of this group matched the style of their teachers’.

The following table indicates the learning preferences of preparatory students of Gazi Anatolian High School.

**Table 4.4 Distributions of LSPs for Preparatory Students at
Gazi Anatolian High School**

	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		N	$\bar{x}$	sd
	f	%	f	%	f	%	f	%	f	%			
1. When the teacher tells me the instructions, I understand better.	7	33,3	14	66,7	0	0	0	0	0	0	21	4,33	0,49
2. I remember things I have heard in class better than things I have read.	4	19,0	10	47,6	4	19,0	3	14,3	0	0	21	4,19	1,03
3. When someone tells me how to do something in class, I learn it better.	11	52,4	5	23,8	3	14,3	2	9,5	0	0	21	4,00	0,78
4. I learn better in class when the teacher gives a lecture.	5	23,8	12	57,1	3	14,3	1	4,8	0	0	21	3,23	0,89
5. I learn better in class when I listen to someone.	2	9,5	5	23,8	10	47,6	4	19,0	0	0	21	3,71	0,96
Overall Mean Score of Auditory Style												3,89	0,50
1. I learn better by reading what the teacher writes on the chalkboard.	5	23,8	8	38,1	6	28,6	2	9,5	0	0	21	3,76	0,94
2. When I read the instructions, I remember them better.	5	23,8	14	66,7	2	9,5	0	0	0	0	21	4,14	0,58
3. I understand better when I read the instructions.	5	23,8	10	47,6	2	9,5	4	19,0	0	0	21	3,76	1,04
4. I learn better by reading than by listening to someone.	0	0	11	52,4	7	33,3	2	9,5	1	4,8	21	3,33	0,86
5. I learn more by reading textbooks than by listening to a lecture.	1	4,8	6	28,6	8	38,1	5	23,8	1	4,8	21	3,04	0,98
Overall Mean Score of Visual Style												3,60	0,51

1. I prefer to learn by doing something in class.	15	71,4	5	23,8	0	0	1	4,8	0	0	21	4,61	0,74
2. When I do things in class, I learn it better.	6	28,6	14	66,7	1	4,8	0	0	0	0	21	4,23	0,53
3. I enjoy learning in class by doing experiments.	11	52,4	7	33,3	2	9,5	1	4,8	0	0	21	4,33	0,86
4. I understand things better in class when I participate in role-playing.	7	33,3	11	52,4	1	4,8	2	9,5	0	0	21	4,09	0,89
5. I learn best in class when I can participate in related activities.	5	23,8	13	61,9	3	14,3	0	0	0	0	21	4,09	0,62
Overall Mean Score of Kinesthetic Style												4,27	0,43
1. I learn more when I can make a model of something.	3	14,3	12	57,1	4	19,0	2	9,5	0	0	21	3,76	0,83
2. I learn more when I make something for a class project.	2	9,5	12	57,1	4	19,0	2	9,5	1	4,8	21	3,57	0,98
3. I learn better when I make drawings as I study.	6	28,6	11	52,4	0	0	3	14,3	1	4,8	21	3,85	1,15
4. When I build something, I remember what I have learned better.	7	33,3	9	42,9	4	19,0	0	0	1	4,8	21	4,00	1,00
5. I enjoy making something for a class project.	4	19,0	7	33,3	10	47,6	0	0	0	0	21	3,71	0,79
Overall Mean Score of Tactile Style												3,78	0,70
1. I get more work done when I work with others.	9	42,9	7	33,3	5	23,8	0	0	0	0	21	4,19	0,81
2. In class, I learn best when I work with others.	4	19,0	9	42,9	5	23,8	3	14,3	0	0	21	3,66	0,97
3. I learn more when I study with a group.	14	66,7	4	19,0	2	9,5	1	4,8	0	0	21	4,47	0,88
4. I enjoy working on an assignment with two or more classmates.	10	47,6	7	33,3	2	9,5	2	9,5	0	0	21	4,19	0,99
5. I prefer to study with others.	9	42,9	6	28,6	4	19,0	2	9,5	0	0	21	4,04	1,02
Overall Mean Score of Group Style												4,11	0,61
1. When I study alone, I remember things better.	3	14,3	8	38,1	5	23,8	4	19,0	1	4,8	21	3,38	1,11
2. When I work alone, I learn better.	4	19,0	9	42,9	3	14,3	4	19,0	1	4,8	21	3,52	1,16
3. In class, I work better when I work alone.	2	9,5	6	28,6	10	47,6	2	9,5	1	4,8	21	3,28	0,96
4. I prefer working on projects by myself.	2	9,5	8	38,1	9	42,9	0	0	2	9,5	21	3,38	1,02
5. I prefer to work by myself.	1	4,8	8	38,1	9	42,9	2	9,5	1	4,8	21	3,28	0,90
Overall Mean Score of Individual Style												3,37	0,81

The strongest learning style preference of this group of students is kinesthetic style (4,27) while the least preferred one is individual learning style (3,37). Students also have a tendency toward auditory, visual, tactile, and group learning when mean scores are interpreted according to the table 3.1.

As to the teacher of this group, she has a great tendency towards kinesthetic teaching with a mean score of 5,00. It confirms that she has strongly agreed with the statements related to kinesthetic teaching style. Auditory (4,80) and tactile (4,60) teaching styles are also the ones the teacher frequently uses in the classroom. The least preferred teaching style is the individual style (3,40). Therefore, it can be concluded that the learning styles of the students at Mehmet Emin Resulzade Anatolian High School matched the style of their teacher's.

The analysis of the mean scores of each learning style preferences of the students at Etimesgut Anatolian High School is shown in detail in table 4.5.

Table 4.5 Distributions of LSPs for Preparatory Students at Etimesgut Anatolian High School

	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		N	$\bar{x}$	sd
	f	%	f	%	f	%	f	%	f	%			
1. When the teacher tells me the instructions, I understand better.	12	48,0	10	40,0	2	8,0	1	4,0	0	0	25	4,32	0,80
2. I remember things I have heard in class better than things I have read.	2	8,0	6	24,0	11	44,0	4	16,0	2	8,0	25	3,08	1,03
3. When someone tells me how to do something in class, I learn it better.	8	32,4	9	36,0	6	24,0	2	8,0	0	0	25	3,92	0,95
4. I learn better in class when the teacher gives a lecture.	5	20,0	12	48,0	5	20,0	3	12,0	0	0	25	3,76	0,92
5. I learn better in class when I listen to someone.	2	8,0	6	24,0	10	40,0	7	28,0	0	0	25	3,12	0,92
Overall Mean Score of Auditory Style												3,64	0,59

1. I learn better by reading what the teacher writes on the chalkboard.	8	32,0	11	44,0	4	16,0	2	8,0	0	0	25	4,00	0,91
2. When I read the instructions, I remember them better.	7	28,0	14	56,0	4	16,0	0	0	0	0	25	4,12	0,67
3. I understand better when I read the instructions.	10	40,0	6	24,0	7	28,0	2	8,0	0	0	25	3,88	1,20
4. I learn better by reading than by listening to someone.	6	24,0	12	48,0	3	12,0	1	4,0	3	12,0	25	3,68	1,24
5. I learn more by reading textbooks than by listening to a lecture.	4	16,0	5	20,0	9	36,0	6	24,0	1	4,0	25	3,20	1,11
Overall Mean Score of Visual Style												3,77	0,63
1. I prefer to learn by doing something in class.	10	40,0	11	44,0	3	12,0	0	0	1	4,0	25	4,16	0,94
2. When I do things in class, I learn it better.	3	12,0	16	64,0	5	20,0	1	4,0	0	0	25	3,84	0,69
3. I enjoy learning in class by doing experiments.	9	36,0	7	28,0	7	28,0	2	8,0	0	0	25	3,92	1,00
4. I understand things better in class when I participate in role-playing.	4	16,0	8	32,0	9	36,0	4	16,0	0	0	25	3,48	0,97
5. I learn best in class when I can participate in related activities.	6	24,0	11	44,0	7	28,0	1	4,0	0	0	25	3,88	0,83
Overall Mean Score of Kinesthetic Style												3,85	0,54
1. I learn more when I can make a model of something.	8	32,0	8	32,0	7	28,0	2	8,0	0	0	25	3,88	0,98
2. I learn more when I make something for a class project.	7	28,0	8	32,0	7	28,0	3	12,0	0	0	25	3,76	1,01
3. I learn better when I make drawings as I study.	6	24,0	7	28,0	9	36,0	3	12,0	0	0	25	3,64	1,00
4. When I build something, I remember what I have learned better.	5	20,0	10	40,0	6	24,0	4	16,0	0	0	25	3,64	1,00
5. I enjoy making something for a class project.	4	16,0	8	32,0	9	36,0	4	16,0	0	0	25	3,48	1,00
Overall Mean Score of Tactile Style												3,68	0,74
1. I get more work done when I work with others.	5	20,0	13	52,0	5	20,0	2	8,0	0	0	25	3,84	0,86
2. In class, I learn best when I work with others.	3	12,0	9	36,0	10	40,0	3	12,0	0	0	25	3,48	0,88
3. I learn more when I study with a group.	2	8,0	17	68,0	6	24,0	0	0	0	0	25	3,84	0,56
4. I enjoy working on an assignment with two or more classmates.	5	20,0	12	48,0	6	24,0	2	8,0	0	0	25	3,80	0,87
5. I prefer to study with others.	8	32,0	6	24,0	8	32,0	3	12,0	0	0	25	3,76	1,05
Overall Mean Score of Group Style												3,74	0,59

1. When I study alone, I remember things better.	10	40,0	5	20,0	4	16,0	6	24,0	0	0	25	3,76	1,23
2. When I work alone, I learn better.	9	36,0	7	28,0	7	28,0	1	4,0	1	4,0	25	3,88	1,09
3. In class, I work better when I work alone.	7	28,0	6	24,0	5	20,0	6	24,0	1	4,0	25	3,48	1,26
4. I prefer working on projects by myself.	8	32,0	3	12,0	10	40,0	3	12,0	1	4,0	25	3,56	1,19
5. I prefer to work by myself.	6	24,0	4	16,0	11	44,0	4	16,0	0	0	25	3,48	1,04
Overall Mean Score of Individual Style												3,63	1,02

According to the table above, all the learning style preferences of these preparatory students range from 3.41 and 4.20. Hence, it is concluded that they have generally agreed or strongly agreed with the statements in the questionnaire and they have a combination of styles. However, of the above mean scores, kinesthetic learning style preference (3.95) is the highest while the individual learning style preference (3.63) is the lowest.

The teacher of this class, also, uses a combination of teaching styles. The remarkable result, which catches one's eye at once, is that the mean scores of auditory and kinesthetic teaching style are equal (4.40), and they are highly used teaching styles according to table 3.1. As it is stated before, it is difficult to make a generalization considering the false responses in the questionnaire, but it is derived from the results that the learning styles of the students matched the teaching styles of their teachers.

The fifth school where the perceptual learning style questionnaire was administered is Hacı Ömer Tarman Anatolian High School. The table below indicates the learning style preferences of preparatory students at this school.

As the table demonstrates the results, the overall mean scores of each learning style are close to each other. Hence, all the learning styles are highly preferred as table 3.1 indicates.

**Table 4.6 Distributions of LSPs for Preparatory Students at
Hacı Ömer Tarman Anatolian High School**

	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		N	$\bar{x}$	sd
	f	%	f	%	f	%	f	%	F	%			
1. When the teacher tells me the instructions, I understand better.	13	50,0	11	42,3	1	3,8	0	0	1	3,8	26	4,34	0,90
2. I remember things I have heard in class better than things I have read.	0	0	13	50,0	10	38,5	3	11,5	0	0	26	3,57	0,90
3. When someone tells me how to do something in class, I learn it better.	4	15,4	9	34,6	12	46,2	0	0	1	3,8	26	3,92	0,80
4. I learn better in class when the teacher gives a lecture.	5	19,2	16	61,5	3	11,5	2	7,7	0	0	26	3,26	0,97
5. I learn better in class when I listen to someone.	3	11,5	7	26,9	10	38,5	6	23,1	0	0	26	3,38	0,70
Overall Mean Score of Auditory Style												3,70	0,44
1. I learn better by reading what the teacher writes on the chalkboard.	5	19,2	14	53,8	7	26,9	0	0	0	0	26	3,92	0,69
2. When I read the instructions, I remember them better.	10	38,5	14	53,8	2	7,7	0	0	0	0	26	4,30	0,61
3. I understand better when I read the instructions.	6	23,1	18	69,2	2	7,7	0	0	0	0	26	4,15	0,54
4. I learn better by reading than by listening to someone.	3	11,5	11	42,3	10	38,5	2	7,7	0	0	26	3,57	0,80
5. I learn more by reading textbooks than by listening to a lecture.	12	46,2	10	38,5	4	15,4	0	0	0	0	26	3,30	0,73
Overall Mean Score of Visual Style												3,85	0,38

1. I prefer to learn by doing something in class.	14	53,8	11	42,3	1	3,8	0	0	0	0	26	4,50	0,59
2. When I do things in class, I learn it better.	8	30,8	17	65,4	1	3,8	0	0	0	0	26	4,26	0,53
3. I enjoy learning in class by doing experiments.	8	30,8	11	42,3	7	26,9	0	0	0	0	26	4,03	0,78
4. I understand things better in class when I participate in role-playing.	7	26,9	13	50,0	2	7,7	3	11,5	1	3,8	26	3,84	1,08
5. I learn best in class when I can participate in related activities.	7	26,9	16	61,5	3	11,5	0	0	0	0	26	4,15	0,61
Overall Mean Score of Kinesthetic Style												4,16	0,46
1. I learn more when I can make a model of something.	3	11,5	16	61,5	7	26,9	0	0	0	0	26	3,84	0,61
2. I learn more when I make something for a class project.	7	26,9	15	57,7	2	7,7	2	7,7	0	0	26	4,03	0,82
3. I learn better when I make drawings as I study.	4	15,4	14	53,8	6	23,1	2	7,7	0	0	26	3,76	0,81
4. When I build something, I remember what I have learned better.	6	23,1	11	42,3	7	26,9	2	7,7	0	0	26	3,80	0,90
5. I enjoy making something for a class project.	6	23,1	8	30,8	11	42,3	1	3,8	0	0	26	3,73	0,88
Overall Mean Score of Tactile Style												3,83	0,46
1. I get more work done when I work with others.	7	26,9	11	42,3	5	19,2	3	11,5	0	0	26	3,84	0,97
2. In class, I learn best when I work with others.	2	7,7	12	46,2	8	30,8	4	15,4	0	0	26	3,46	0,86
3. I learn more when I study with a group.	9	34,6	8	30,8	8	30,8	1	3,8	0	0	26	3,96	0,91
4. I enjoy working on an assignment with two or more classmates.	10	38,5	10	38,5	4	15,4	2	7,7	0	0	26	4,07	0,93
5. I prefer to study with others.	3	11,5	17	65,4	2	7,7	4	15,4	0	0	26	3,73	0,88
Overall Mean Score of Group Style												3,81	0,74
1. When I study alone, I remember things better.	6	23,1	10	38,5	9	34,6	1	3,8	0	0	26	3,80	0,84
2. When I work alone, I learn better.	1	3,8	16	61,5	9	34,6	0	0	0	0	26	3,69	0,54
3. In class, I work better when I work alone.	4	15,4	11	42,5	10	38,5	1	3,8	0	0	26	3,69	0,79
4. I prefer working on projects by myself.	2	7,7	11	42,5	11	42,5	2	7,7	0	0	26	3,50	0,77
5. I prefer to work by myself.	2	7,7	11	42,5	12	46,2	1	3,8	0	0	26	3,53	0,70
Overall Mean Score of Individual Style												3,64	0,43

Of the six learning styles, kinesthetic style has the highest mean score (3.86) whereas tactile style has the lowest mean score (3.37). It is a remarkable result that kinesthetic and tactile learning styles are similar to each other in the sense that both of them involve action and movement. However, it should be born in mind that whatever the overall mean score of each learning style is, all of them are highly preferred and used by this group of students as table 3.1 shows. It is concluded that the students have avoided marking ‘disagree or strongly disagree’, and preferred marking ‘agree or strongly agree’ for the statements of each learning style.

Unlike the students’ learning style preference at H. Ö. Tarman Anatolian High School, their teachers have a tendency towards auditory and group teaching style. As it mentioned above, the result shows that students generally tend to use all learning styles while learning something, yet their teacher does not seem to live up to their expectations as the mean score of her kinesthetic teaching style preference is 3.20. According to table 3.1, this score shows that kinesthetic preference is not used frequently. In contrast, it is sometimes used in the classroom.

Finally, the results of the perceptual learning style questionnaire administered at Çankaya Atatürk Anatolian High School are displayed in table 4.7

**Table 4.7 Distributions of LSPs for Preparatory Students at
Çankaya Atatürk Anatolian High School**

	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		N	$\bar{x}$	sd
	f	%	f	%	f	%	f	%	f	%			
1. When the teacher tells me the instructions, I understand better.	15	57,7	11	42,3	0	0	0	0	0	0	26	4,57	0,50
2. I remember things I have heard in class better than things I have read.	1	3,8	14	53,8	6	23,1	5	19,2	0	0	26	3,42	0,86
3. When someone tells me how to do something in class, I learn it better.	6	23,1	9	34,6	6	23,1	4	15,4	1	3,8	26	3,57	1,13
4. I learn better in class when the teacher gives a lecture.	15	57,7	8	30,8	2	7,7	1	3,8	0	0	26	4,42	0,80
5. I learn better in class when I listen to someone.	2	7,7	2	7,7	10	38,5	8	34,6	3	11,5	26	2,65	1,04
Overall Mean Score of Auditory Style												3,73	0,43
1. I learn better by reading what the teacher writes on the chalkboard.	6	23,1	8	30,8	6	23,1	6	23,1	0	0	26	3,53	1,10
2. When I read the instructions, I remember them better.	7	26,9	12	46,2	7	26,9	0	0	0	0	26	4,00	0,74
3. I understand better when I read the instructions.	7	26,9	10	38,5	3	11,5	4	15,4	2	7,7	26	3,61	1,27
4. I learn better by reading than by listening to someone.	5	19,2	5	19,2	9	34,6	5	19,2	2	7,7	26	3,23	1,21
5. I learn more by reading textbooks than by listening to a lecture.	3	11,5	4	15,4	4	15,4	14	53,8	1	3,8	26	2,76	1,14
Overall Mean Score of Visual Style												3,43	0,68
1. I prefer to learn by doing something in class.	10	38,5	10	38,5	4	15,4	2	7,7	0	0	26	4,07	0,93
2. When I do things in class, I learn it better.	10	38,5	11	42,3	4	15,4	1	3,8	0	0	26	4,15	0,83
3. I enjoy learning in class by doing experiments.	10	38,5	11	42,3	4	15,4	1	3,8	0	0	26	4,11	0,95
4. I understand things better in class when I participate in role-playing.	6	23,1	7	26,9	5	19,2	5	19,2	3	11,5	26	3,30	1,34
5. I learn best in class when I can participate in related activities.	7	26,9	10	38,5	3	11,5	5	19,2	1	3,8	26	3,65	1,19
Overall Mean Score of Kinesthetic Style												3,86	0,76

1. I learn more when I can make a model of something.	5	19,2	8	30,8	6	23,1	7	26,9	0	0	26	3,42	1,10
2. I learn more when I make something for a class project.	6	23,1	9	34,6	6	23,1	2	7,7	3	11,5	26	3,50	1,28
3. I learn better when I make drawings as I study.	8	30,8	5	19,2	6	23,1	7	26,9	0	0	26	3,53	1,20
4. When I build something, I remember what I have learned better.	6	23,1	6	23,1	7	26,9	3	11,5	4	15,4	26	3,26	1,38
5. I enjoy making something for a class project.	6	23,1	6	23,1	4	15,4	6	23,1	4	15,4	26	3,15	1,43
Overall Mean Score of Tactile Style												3,37	0,91
1. I get more work done when I work with others.	5	19,2	10	38,5	7	26,9	4	15,4	0	0	26	3,61	0,99
2. In class, I learn best when I work with others.	2	7,7	7	26,9	9	34,6	6	23,1	2	7,7	26	3,03	1,07
3. I learn more when I study with a group.	4	15,4	11	42,3	8	30,8	2	7,7	1	3,8	26	3,57	0,99
4. I enjoy working on an assignment with two or more classmates.	8	30,8	8	30,8	5	19,2	5	19,2	0	0	26	3,73	1,11
5. I prefer to study with others.	7	26,9	5	19,2	6	23,1	6	23,1	2	7,7	26	3,34	1,32
Overall Mean Score of Group Style												3,46	0,79
1. When I study alone, I remember things better.	3	11,5	6	23,1	9	34,6	5	19,2	3	11,5	26	3,03	1,18
2. When I work alone, I learn better.	3	11,5	10	38,5	4	15,4	6	23,1	3	11,5	26	3,15	1,25
3. In class, I work better when I work alone.	4	15,4	7	26,9	7	26,9	7	26,9	1	3,8	26	3,23	1,14
4. I prefer working on projects by myself.	2	7,7	6	23,1	6	23,1	9	34,6	3	11,5	26	2,80	1,16
5. I prefer to work by myself.	0	0	4	15,4	10	38,5	7	26,9	5	19,2	26	2,50	0,99
Overall Mean Score of Individual Style												2,94	0,82

Of the six learning styles above, kinesthetic learning style has the highest mean score (3.86). Nonetheless, the scores of the other learning style preferences are also close to kinesthetic style. Therefore, a dominant learning style preference does not exist among these preparatory students. In other words, they have a combination of styles.

On the other hand, once the overall mean scores of their teacher are examined, one can easily find out that group style is the most widely used teaching

style preference with an overall mean of 5.00. This shows that the teacher marked ‘strongly agree’ for all the statements of group style. On the contrary, it is concluded that she has rarely agreed and generally disagreed with the statements of individual teaching style since it has an overall mean of 2.00. Furthermore, the other major teaching style of this teacher is the kinesthetic style with a mean score of 4.80.

The combined mean scores of the learning style preferences for all the students at six different Anatolian High Schools are illustrated in table 4.8.

Table 4.8 Distributions of LSPs of all the students at Anatolian High Schools

	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		N	$\bar{x}$	sd
	F	%	f	%	f	%	f	%	f	%			
1. When the teacher tells me the instructions, I understand better.	74	49,0	68	45,0	7	4,6	1	0,7	1	0,7	151	4,41	0,68
2. I remember things I have heard in class better than things I have read.	13	8,6	78	51,7	40	26,5	18	11,9	2	1,3	151	3,54	0,87
3. When someone tells me how to do something in class, I learn it better.	42	27,8	56	37,1	38	25,2	13	8,6	2	1,3	151	3,81	0,99
4. I learn better in class when the teacher gives a lecture.	43	28,5	79	52,3	22	14,6	7	4,6	0	0	151	4,04	0,79
5. I learn better in class when I listen to someone.	13	8,6	41	27,2	60	39,7	30	19,9	7	4,6	151	3,15	0,99
Overall Mean Score of Auditory Style												3,79	0,49
1. I learn better by reading what the teacher writes on the chalkboard.	48	31,8	65	43,0	25	16,6	13	8,6	0	0	151	3,98	0,91
2. When I read the instructions, I remember them better.	44	29,1	84	55,6	23	15,2	0	0	0	0	151	4,13	0,66
3. I understand better when I read the instructions.	49	32,5	69	45,7	19	12,6	10	6,6	4	2,6	151	3,98	0,98
4. I learn better by reading than by listening to someone.	24	15,9	58	38,4	48	31,8	15	9,9	6	4,0	151	3,52	1,00
5. I learn more by reading textbooks than by listening to a lecture.	16	10,6	44	29,1	50	33,1	37	24,5	4	2,6	151	3,20	1,01
Overall Mean Score of Visual Style												3,76	0,57

1. I prefer to learn by doing something in class.	73	48,3	62	41,1	12	7,9	3	2,0	1	0,7	151	4,34	0,77
2. When I do things in class, I learn it better.	52	34,4	80	53,0	17	11,3	2	1,3	0	0	151	4,20	0,69
3. I enjoy learning in class by doing experiments.	62	41,1	56	37,1	25	16,6	6	4,0	2	1,3	151	4,12	0,91
4. I understand things better in class when I participate in role-playing.	40	26,5	60	39,7	29	19,2	18	11,9	4	2,6	151	3,75	1,05
5. I learn best in class when I can participate in related activities.	42	27,8	70	46,4	28	18,5	10	6,6	1	0,7	151	3,94	0,89
Overall Mean Score of Kinesthetic Style												4,07	0,58
1. I learn more when I can make a model of something.	38	25,2	61	40,4	37	24,5	14	9,3	1	0,7	151	3,80	0,94
2. I learn more when I make something for a class project.	45	29,8	60	39,7	31	20,5	10	6,6	5	3,3	151	3,86	1,02
3. I learn better when I make drawings as I study.	37	24,5	61	40,4	34	22,5	17	11,3	2	1,3	151	3,75	1,00
4. When I build something, I remember what I have learned better.	41	27,2	52	34,4	39	25,8	13	8,6	6	4,0	151	3,72	1,1
5. I enjoy making something for a class project.	37	24,5	50	33,1	43	28,5	14	9,3	7	4,6	151	3,63	1,1
Overall Mean Score of Tactile Style												3,75	0,74
1. I get more work done when I work with others.	40	26,5	66	43,7	33	21,9	12	7,9	0	0	151	3,88	0,90
2. In class, I learn best when I work with others.	19	12,6	63	41,7	47	31,1	19	12,6	3	2,0	151	3,50	0,93
3. I learn more when I study with a group.	38	25,2	67	44,4	39	25,8	6	4,0	1	0,7	151	3,89	0,84
4. I enjoy working on an assignment with two or more classmates.	57	37,7	61	40,4	22	14,6	11	7,3	0	0	151	4,08	0,90
5. I prefer to study with others.	44	29,1	52	34,4	33	21,9	19	12,6	3	2,0	151	3,76	1,06
Overall Mean Score of Group Style												3,82	0,68
1. When I study alone, I remember things better.	39	25,8	52	34,4	39	25,8	17	11,3	4	2,6	151	3,69	1,04
2. When I work alone, I learn better.	31	20,5	62	41,1	39	25,8	13	8,6	6	4,0	151	3,65	1,02
3. In class, I work better when I work alone.	23	15,2	53	35,1	46	30,5	25	16,6	4	2,6	151	3,43	1,02
4. I prefer working on projects by myself.	22	14,6	49	32,5	55	36,4	17	11,3	8	5,3	151	3,39	1,03
5. I prefer to work by myself.	14	9,3	46	30,5	62	41,1	21	13,9	8	5,3	151	3,24	0,99
Overall Mean Score of Individual Style												3,48	0,80

Table 4.8 shows the means of the responses of all the students at preparatory classes at Anatolian High Schools.

In this set of items, auditory is a frequently preferred item and the overall mean score of auditory learning style preference is 3,79. More than half of the students think that when the teacher gives the instructions orally before an activity, they understand better. The mean scores of the second and the third item for auditory learning style are lower than the other items because the number of the students who have chosen to be undecided for those statements is rather high. The overall mean demonstrates that the students learn better when their teacher gives a lecture; in other words, they generally prefer to learn from oral presentations. On the other hand, students do not have a high preference for the fifth item, which is “I learn better in class when I listen to someone.” The combined mean score of this item is 3,15. This is not a surprising result, taking into consideration the negative attitudes of students toward listening activities or toward talking and discussing with friends in class. It can be derived that there are differences in frequency for each item due to the fact that students not only learn by listening, but also learn well by reading.

The overall mean score of the visual learning style also confirms this inference. There is not a big difference in the mean scores of auditory and visual learning style. The combined mean for the preference for visual style is 3,76. Although it is not the highest preference, it is described as a frequently preferred style according to table 3.1 Most of the students want their teacher to present the new material on the chalkboard/blackboard. It is also a remarkable result that the second and the third items are close to each other in terms of content; however, there is a slight difference in the combined means (4,13 and 3,98). Furthermore, some of

the students are undecided for the last statement of this set of items, which is “I learn more by reading textbooks rather than by listening to a lecture.” A great number of students disagree with this statement while some of them agree. The reason for these changing results in the frequency may stem from the fact that most of the teachers present the new subject orally, and rarely let students learn by reading textbooks or written materials. Therefore, the students are not accustomed to this kind of instruction.

The preference, which has the highest mean score, is the kinesthetic learning style. Among the set of items for kinesthetic style, the first and the second item have the highest mean scores. It indicates that students enjoy learning by doing something in class. As it is stated before, in the students’ questionnaire all the items are translated into Turkish and some of them are explained by giving examples in order to avoid misinterpretations. Hence, it is concluded that when the students are allowed to involve actively in related activities, they learn better. The combined mean for the item 4, which is “I understand things better in class when I participate in role-playing”, is a little lower than the others. However, it does not mean that students do not like to take place in role- playing activities. On the contrary, the learning styles and interests differ considering the fact that the classes are generally heterogeneous and mixed ability classes. Therefore, there might be extrovert and introvert students in class. Nevertheless, a generalization is made since this study does not deal with the individuals particularly; in contrast, the students are examined as a whole.

The next learning style preference illustrated in table 4.8 is tactile style, which has an overall mean score of 3.75. As table 3.1 indicates, it is a generally

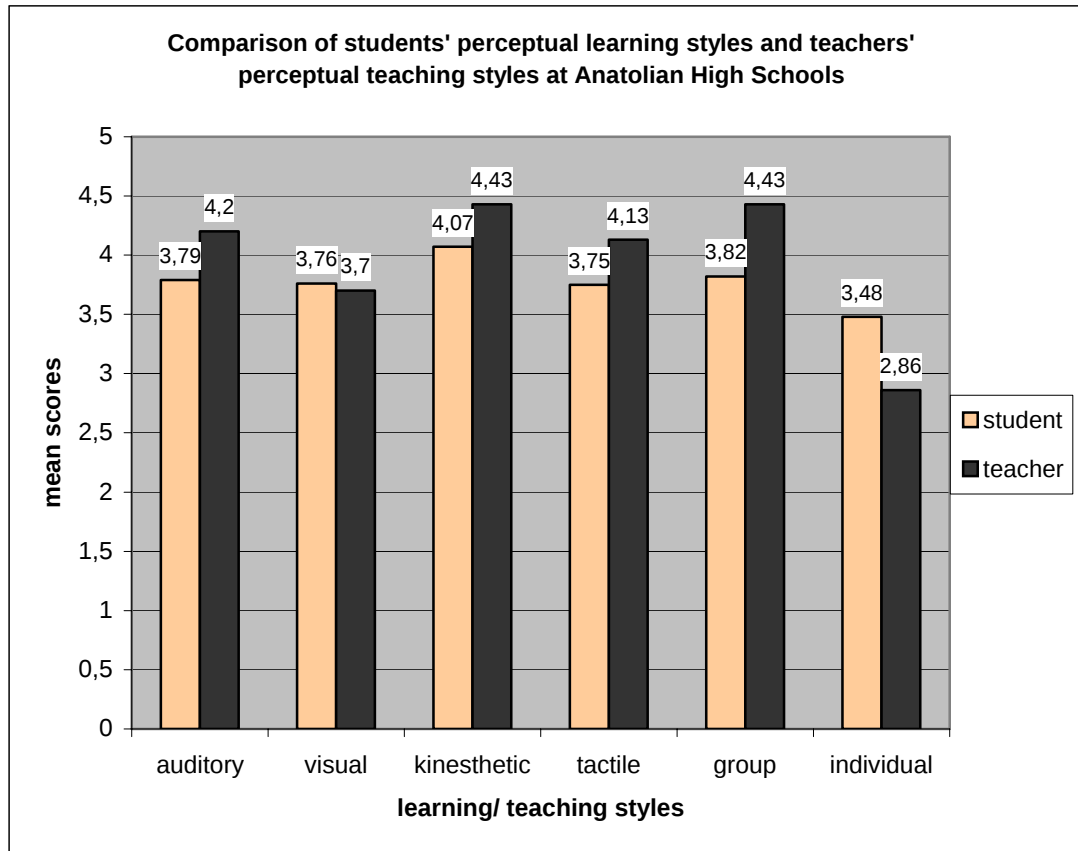
preferred learning style. As it is explained in Chapter 2, tactile style includes ability in 'hands-on' activities. These 'hands-on activities range from making a model of something to preparing a class project or taking notes. When the responses have been analyzed, it is concluded that most students prefer to make something for a class project. This class project may be a class newspaper, magazine, a notice or a sign to be stuck on the billboard, or drawing a picture related with the teaching point. In addition, students generally make these kinds of class projects with a group of students. Provided the students enjoy working with a group, they might make use of the group style, as well. Most of the students also agreed with the statement 4, which is "When I build something, I remember what I have learned better". Although there are few students who disagree with the idea, most of them would prefer to build something.

It is generally accepted that most students prefer to study with a partner or a group since they feel more relaxed and comfortable; they do not feel anxious; they are not hindered by the fear of making mistakes, and they have the opportunity to interact with the other student. It is clearly observed among the group of students in this study since the group learning style preference has the second highest mean score, which is 3,82. As it is illustrated in the table the frequencies show that one third of the students agree with the statements related to group learning style. Most of the other students strongly agree and some of them are undecided. Nevertheless, it can be derived that they generally prefer working with others in the classroom since the overall mean score indicates that this learning style is generally preferred if table 3.1 is a criterion to be applied to.

The last learning style preference to be discussed is individual learning style. As the overall mean score of the students' group learning style preference is high, it is normally expected that these students do not prefer to study individually or in other words, on their own. Thus, it is an anticipated result that the individual learning style has the lowest overall mean score (3,48) of all the learning style preferences. But, still, it is remarkable that it is accepted as generally preferred learning style according to the range of scores in table 3.1. Consequently, it should not be regarded as a minor learning style and never used by the students in classroom. On the contrary, the overall mean score of individual learning style is between 3,40 and 4,20, which is a range indicating generally preferred learning style although it has the lowest mean score when compared to the other learning styles.

As it is mentioned before, one of the aims of this study is to compare the learning styles of the students and teaching styles of teachers at preparatory classes of Anatolian High Schools after exploring each of them by means of questionnaires. The overall mean scores are illustrated in a bar chart, which is indicated below.

Chart 4.1



The distribution of learning styles of the students and teaching styles of the teachers at Anatolian High Schools in Ankara is shown above. As it is seen obviously, the overall mean score of the auditory teaching style (4,20) is higher than the overall mean score of the auditory learning style (3,79). However, both of them are generally preferred and used according to the range of scores in table 3.1. This means that teachers generally explain the new subject by giving lectures, prefer oral presentations in class, talks a lot, and frequently use class discussion. As a great number of students learn better when they are lectured or given oral presentations, the auditory teaching style is considered to address students' learning preference to a large extent.

On the other hand, the mean score of the visual teaching style preference of the teachers, which is 3,70, is lower than the auditory style. Hence, it could be concluded that teachers do not use visual teaching style as much as auditory preference. This shows that teachers do not vary their instruction adequately to address their students' visual learning style. It is also inferred from the responses of the teachers that they do not often use visual aids in the classroom. Nonetheless, almost all of them use the board while presenting a new subject, which at least helps the visual learners to learn better.

As the students' overall mean score of kinesthetic style preference is the highest, they like to be physically involved in the learning process. In a similar manner, most teachers make use of the kinesthetic teaching style preference in class so that the scores indicate that kinesthetic teaching style matched the students' kinesthetic learning style preference to a large extent. Therefore, teachers like their students to be physically active with role-plays or action games. As Wingate (2000) states, teachers who teach kinesthetically, also use gestures, actions, and demonstrations. They like group work or teamwork, as well (p.35). The fact that group teaching style preference is also high supports his statement. Hence, it could be concluded that the group and kinesthetic teaching style overlaps partly since there is interaction between students and there is physical involvement in most of the team activities. Similarly, students enjoy working in groups and prefer to interact with each other while learning a new subject. They prefer studying in groups rather than studying on their own.

As it is mentioned before, students generally have a tendency towards group learning style. However, there are still some students who prefer to work

individually and feel comfortable when they study on their own. As it is shown in table 4.8 and in the bar chart above, the number of students who have a dominant individual learning style is less than the number of students who prefer to work in teams. Similarly, teachers do not show a tendency to make the students study individually in classroom.

To sum up, preparatory class students at Anatolian High Schools have a combination of perceptual learning styles. This shows that students like variety in learning English. Although the kinesthetic learning style has the highest mean score, participants seem to be multistyle learners when the results are assessed as a whole. This is not surprising since one would normally expect that high school students, who are 14 and 15 years old, would be mainly kinesthetic. In short, major learning style preference of the participants in the study could be considered as kinesthetic style even though the mean scores of the other learning style preferences are also high enough not to be underestimated.

When the perceptual learning styles of the students and the perceptual teaching styles of their main course teachers are compared, it is deduced that the sensory modes of the two groups matched to a large extent. The teachers in the study also have a combination of teaching styles, and they do not have a negative attitude towards any of the items in the questionnaire. However, a parallelism in the sensory modes does not mean that teachers entirely meet the needs of the students, respond to all the aspects of students' learning styles and vary their teaching methods and techniques.

4.2.2 Results of Teaching Style Inventory

In order to determine teachers' teaching styles in broad terms, a teaching style inventory, which deals with each teaching style component separately, has been delivered to English teachers at six different Anatolian High Schools. The original score table, which is taken from Dunn & Dunn (1993, p. 419), is shown in table 4.9 below.

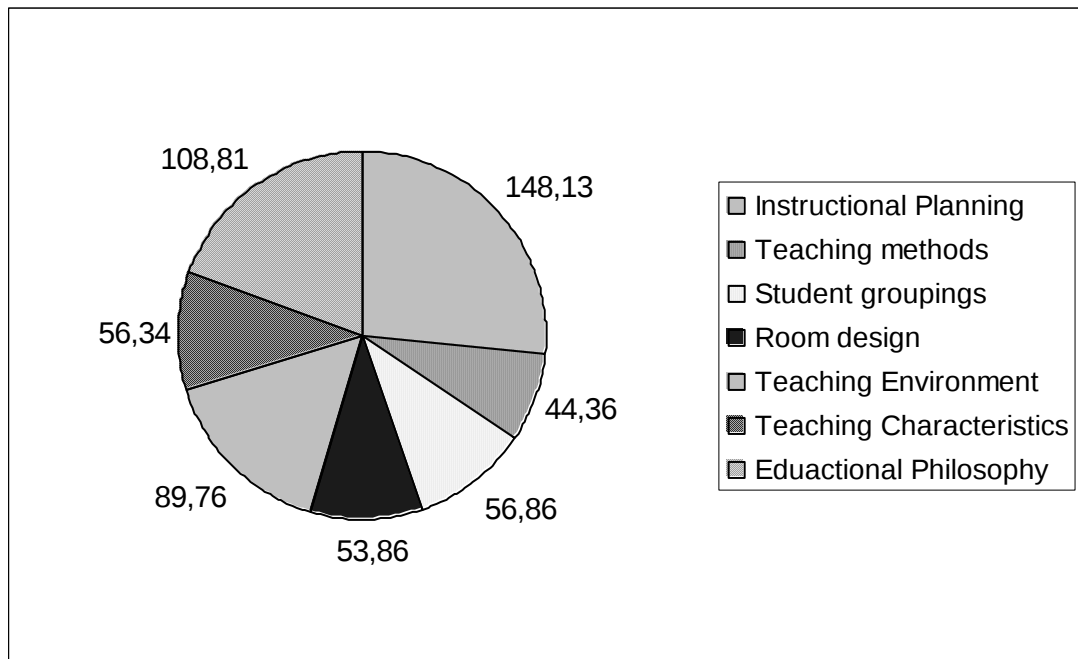
Table 4.9 Dunn & Dunn's Teaching Style Profile

	Individualized	Somewhat Individualized	Transitional	Somewhat Traditional	Traditional
1. Instructional Planning	210	168	126	84	42
2. Teaching Methods	80	64	48	32	16
3. Student Groupings	90	72	54	36	18
4. Room Design	110	88	66	44	22
5. Teaching Environment	150	120	90	60	30
6. Teaching Characteristics	100	80	60	40	20
7. Educational Philosophy	220	176	132	88	44

The five attitudes are the indicators that show to which extent the teachers in the study are individualized or traditional. To explain briefly, an individualized teacher mostly applies student-centered teaching in the classroom, takes the students' interests, differences, and learning styles into consideration while teaching. A traditional teacher is, on the contrary, prefers a teacher-centered instruction and generally does not show a tendency to know each student's unique way of absorbing new information. The teacher is generally the knower and the lecturer from the point of view of a traditional teacher. A transitional teacher is, on the other hand, neither individualized nor traditional.

The teaching style profile of the EFL teachers in Anatolian High Schools is shown in the pie chart below.

Chart 4.2 The Teaching Style Profile of the Teachers according to Dunn & Dunn's scoring table



The teaching style inventory (see Appendix 3) consists of 7 parts pertaining to teachers' methods, techniques, and even teachers' educational philosophy. Each part of this questionnaire has been explained in Chapter 3. At this point the pie chart, which shows the mean scores of each category in the teaching style inventory, is compared with the original score table (table 4.9). However, the responses for each item, which are analyzed and figured out as frequency, percentage and mean scores by means of SPSS, are indicated in tables and discussed in detail.

According to the chart, the score of the 'instructional planning' is 148.13. When it is compared with the original score table (table 4.9), it is realized that the teachers are somewhat individualized when the instructional planning is in question. The second section of the teaching style inventory is 'teaching methods'. As the

chart indicates, the overall mean score of 45 teachers for 'teaching methods' is 44.36. The result shows that teachers are transitional about the teaching methods. The third category of the teaching style inventory is 'student groupings'. The mean score is 56.86, which is between the degrees of transitional and somewhat individualized. However, the score is closer to the transitional type of indicator. The fourth section in the inventory is 'room design', which has a score of 53.86. It demonstrates that the teachers are also transitional when 'room design' is in question. The next category of the teaching style inventory is 'teaching environment', which indicates that teachers are transitional with an overall mean score of 89.76. The last two sections of the teaching style inventory are 'teaching characteristics' and 'educational philosophy'. When the overall mean scores of these two categories are compared to the original score table, the results indicate that the teachers are transitional in both of the categories.

The results of the teaching style inventory are indicated in detail below. Table 4.10 shows the frequency, percentage, overall means, and standard deviations of each item in the questionnaire.

**Table 4.10 The Results of the ‘Instructional Planning’ in the
Teaching Style Inventory**

	Never		Rarely		Occasionally		Frequently		Always		N	$\bar{x}$	Sd
	f	%	f	%	f	%	f	%	f	%			
a. I find out each student’s individual differences, needs and interests.	4	8,9	11	24,4	12	26,7	12	26,7	6	13,3	45	3,11	1,19
b. I teach to whole class rather than groups of 3-8.	0	0	5	11,1	8	17,8	21	46,7	11	24,4	45	3,84	0,92
c. I apply multisensory teaching in class. (teaching according to visual, auditory, kinesthetic, tactile learners)	6	13,3	9	20,0	13	28,9	12	26,7	5	11,1	45	3,02	1,21
d. I do creative activities according to students’ interests, intelligences and learning styles.	0	0	6	13,3	21	46,7	14	31,1	4	8,9	45	3,35	0,83
e. I use programmed materials.	0	0	7	15,6	10	22,2	20	44,4	8	17,8	45	3,64	0,96
f. I give small-group assignments in class.	2	4,4	9	20,0	15	33,3	16	35,6	3	6,7	45	3,20	0,99
g. I use task cards or games in class.	0	0	14	31,1	13	28,9	15	33,3	3	6,7	45	3,15	0,95
h. I have objectives varied for students’ interests, intelligences and learning styles.	6	13,3	11	24,4	13	28,9	11	24,4	4	8,9	45	2,91	1,18
i. I apply team learning in class.	5	11,1	10	22,2	11	24,4	16	35,6	3	6,7	45	3,04	1,14
j. I use role-playing or simulations in class.	3	6,7	2	4,4	12	26,7	21	46,7	7	15,6	45	3,60	1,03
k. I do brainstorming before an activity.	0	0	9	20,0	11	24,4	6	13,3	19	42,2	45	3,77	1,20
l. Students design their own studies.	12	26,7	10	22,2	12	26,7	10	22,2	1	2,2	45	2,51	1,17
Overall Mean Score												3,26	0,70

As the table above shows, most of the teachers do not tend to diagnose each student’s individual differences, interests, and learning styles. The widespread attitude of Anatolian High School teachers in this study when explaining a new subject is to lecture to whole class. The results illustrate that out of 45 teachers, 6 of

them never take students sensory modes into account, 9 of them rarely do, 13 of the teachers occasionally while 12 of the teachers frequently apply multisensory teaching in class. Besides, 5 teachers state that they always take students differences and learning styles into account while teaching. Moreover, the teachers occasionally do creative activities according to students' interests, intelligences, and learning styles. It could be concluded that most of the teachers do not address to students' intelligences and learning styles consciously because they do not tend to find out the individual differences, as it is apparent in results of the first item. Nonetheless, they claim that they do creative activities in class. According to the results, 7 of the teachers rarely use programmed materials, 10 teachers occasionally do, 20 teachers frequently, and 8 teachers always claim to use programmed materials. As the perceptual teaching style questionnaire suggests, teachers generally give small group tasks in class. This teaching style inventory also supports this claim. Not all the teachers favour task cards or games in class since only 3 teachers cite they always use games or task cards, 15 teachers report they frequently do, 13 teachers occasionally, and 11 teachers mention that they rarely use task cards or games in class. However, it is also remarkable that none of the teachers responded 'never' to the given prompt in the questionnaire.

Most teachers do not have objectives varied for students' interests, intelligences and learning styles. As the results demonstrate, nearly 36 percent of the teachers frequently apply team learning in class whereas 24,4 percent of the teachers sometimes do, 22,2 percent of the teachers rarely, and 11,1 percent of the teachers never apply team learning in class. The results show that most teachers use role-playing and simulations in the class. Besides, they do brainstorming activity before

an activity. Yet the frequency and the percentage of the participants, who mention that students never or rarely design their own studies, is high. Thus, it could be concluded that students are not allowed to design their studies on their own. This kind of teaching is entirely based on an individualized teaching, but the teachers included in this study do not tend to base their teaching on such an individualized instruction. Although Dunn & Dunn (1993) strongly recommend this kind of teaching, it should be kept in mind that students cannot find the opportunity to design their own studies in the process of learning in Turkish schools.

Below the scores of the items related to ‘Teaching Methods’ are indicated.

Table 4.11 The Results of Teaching Methods in the Teaching Style Inventory

	Never		Rarely		Occasionally		Frequently		Always		N	$\bar{x}$	Sd
	f	%	f	%	f	%	f	%	f	%			
a. I give lectures to whole class.	2	4,4	5	11,1	10	22,2	13	28,9	15	33,3	45	3,75	1,17
b. My students learn the new information by teacher demonstration.	1	2,2	3	6,7	16	35,6	11	24,4	14	31,1	45	3,75	1,04
c. I form small groups while I’m teaching.	9	20,0	10	22,2	15	33,3	10	22,2	1	2,2	45	2,64	1,11
d. I make use of media (films, tapes, etc.)	8	17,8	10	22,2	17	37,8	7	15,6	3	6,7	45	2,71	1,14
e. Students do class discussion about a subject.	2	4,4	9	20,0	19	42,2	7	15,6	8	17,8	45	3,22	1,10
f. I make individualized diagnosis for each student and teach accordingly.	9	20,0	17	37,8	17	37,8	2	4,4	0	0	45	2,26	0,83
Overall Mean Score												3,15	0,44

The results show that almost all teachers give lectures to whole class while presenting a new subject. In addition, students learn the new information by teacher demonstration. Similarly, the perceptual teaching style questionnaire shows that teachers have a high preference for auditory teaching style, so this result supports

that they generally give lectures in class. It is also striking that most teachers do not make use of media although it is generally believed that media is a good device in teaching a foreign language. Out of 45 teachers, only 7 teachers report they frequently make use of media and 3 teachers always do. It can be inferred that teachers do not vary their teaching according to sensory modes of the students. On the other hand, students occasionally do class discussion about a subject. Therefore, they frequently have interaction with each other. It also supports that teachers have a general tendency towards auditory teaching style.

It is supported once more that teachers do not make individualized diagnosis for each student and do not teach accordingly as it is stated before in the first set of items of the questionnaire. Nonetheless, it is observed by the researcher that most of the teachers favoured learning style questionnaire even though some of them did not want to take part in the administration of teaching style questionnaire. Moreover, they wanted to administer the learning style questionnaire in their own classrooms to get to know each student as an individual. Therefore, this study might be a model for further implication, at least teachers might allocate some time to diagnose their students' individual differences and learning styles by self-report questionnaires like the ones used in this study.

**Table 4.12 The Results of ‘Student Groupings’
in Teaching style Inventory**

	Never		Rarely		Occasionally		Frequently		Always		N	$\bar{x}$	Sd
	f	%	f	%	f	%	f	%	f	%			
a. I form several small groups (3-8 students) while teaching.	8	17,8	11	24,4	16	35,6	10	22,2	0	0	45	2,62	1,02
b. Students study in pairs in class.	1	2,2	5	11,1	22	48,9	16	35,6	1	2,2	45	3,24	0,78
c. I give independent study assignments/Students work alone in class.	3	6,7	8	17,8	18	40,0	14	31,1	2	4,4	45	3,08	0,98
d. Students have one-to-one interaction with the teacher in class.	0	0	6	13,3	14	31,1	19	42,2	6	13,3	45	3,55	0,90
e. I teach to two or more of the above groupings at one time.	10	22,2	5	11,1	24	53,3	6	13,3	0	0	45	2,57	0,99
f. I teach to one large group (entire class).	0	0	6	13,3	8	17,8	17	37,8	14	31,1	45	3,86	1,01
Overall Mean Score												3,15	0,44

It is apparent in table 4.12 that majority of the teachers prefer to teach to one large group, in other words, to the entire class. This also supports the result that teachers generally give lectures to the whole class as it is illustrated in table 4.10. Nonetheless, they sometimes form small groups. In addition, they occasionally give independent study assignments in class. Teachers generally have one-to-one interaction with students, as it is very important in an EFL classroom.

**Table 4.13 The Results of ‘Room Design’
in Teaching style Inventory**

	Never		Rarely		Occasionally		Frequently		Always		N	$\bar{x}$	Sd
	f	%	f	%	f	%	f	%	f	%			
a. Students sit in rows while I’m teaching in class.	2	4,4	6	13,3	11	24,4	10	22,2	16	35,6	45	3,71	1,21
b. Students sit in groups of 3-8 people in class.	9	20,0	20	44,4	10	22,2	6	13,3	0	0	45	2,28	0,94
c. Students learn in learning stations or interest centers.	34	75,6	7	15,6	2	4,4	1	2,2	1	2,2	45	1,40	0,86
d. I teach at different areas to motivate the students.	18	40,0	9	20,0	6	13,3	11	24,4	1	2,2	45	2,28	1,30
e. I teach to individuals or small groups (2-4) students rather than whole class.	11	24,4	17	37,8	11	24,4	6	13,3	0	0	45	2,26	0,99
f. I make three or more of the above arrangements at the same time.	9	20,0	13	28,9	20	44,4	2	4,4	1	2,2	45	2,40	0,93
Overall Mean Score												2,39	0,52

It is deduced from the results that the EFL classrooms are generally traditional ones with the students sitting in rows while the teacher is explaining a teaching point in class. They do not teach at different areas to motivate the students. Furthermore, there are neither learning stations nor interest centers in Anatolian High Schools, where this study took place. The results show that teachers hardly ever change the physical atmosphere of the classroom for mobile, active, and kinesthetic learners.

**Table 4.14 The Results of ‘Teaching Environment’
in Teaching style Inventory**

	Never		Rarely		Occasionally		Frequently		Always		N	$\bar{x}$	Sd
	f	%	f	%	f	%	f	%	f	%			
a. I change the teaching environment (e.g. places of desks) for different, simultaneous activities.	4	8,9	16	35,6	12	26,7	10	22,2	3	6,7	45	2,82	1,09
b. Nutritional intake is available for all students as needed.	15	33,3	14	31,1	13	28,9	2	4,4	1	2,2	45	2,11	1,00
c. Teaching environment is designed according to different groups that need to talk or interact during an activity.	3	6,7	16	35,6	18	40,0	8	17,8	0	0	45	2,68	0,84
d. Varied time schedules are in use for individuals.	16	35,6	17	37,8	10	22,2	2	4,4	0	0	45	1,95	0,88
e. Students are permitted to choose where they will sit and/or work.	3	6,7	7	15,6	20	44,4	8	17,8	7	15,6	45	3,20	1,09
f. Many multisensory resources are available in the classroom for use by individuals and groups.	6	13,3	17	37,8	11	24,4	7	15,6	4	8,9	45	2,68	1,16
g. Alternative arrangements are made for mobile, active, or overly talkative students.	4	8,9	10	22,2	21	46,7	8	17,8	2	4,4	45	2,86	0,97
Overall Mean Score												2,61	0,52

The result of the first item in table 4.14 supports the previous inference made for the physical atmosphere of the classroom. Teachers rarely change the teaching environment, for instance places of desks, for different activities. Teachers sometimes allow their students to eat or drink in the class. The third item of this set of statements shows that teachers permit a traditional type of classroom no matter what the activity is. They rarely design the teaching environment according to the activity type. It is very difficult to apply varied time schedules for different students in the school as the administrators arrange the time schedules for the whole school.

For this reason, it is not expected for teachers to vary the time schedules accordingly. Students are sometimes permitted to choose where they will sit or work although teachers do not make big changes with the teaching environment. Even though the sixth item is about multisensory resources available in the classroom for learners, teachers needed to state that they mostly use audiotapes among the resources in question. As it is apparent from the results of the last item, 21 of the teachers report that they occasionally make some arrangements for mobile, active or overly talkative students. 8 teachers frequently do while 2 teachers report that they always make the necessary arrangements for the mobile students. On the other hand, 10 teachers claim they rarely change the environment for active and mobile students whereas 4 teachers report that they never do.

**Table 4.15 The Results of ‘Teaching Characteristics’
in Teaching Style Inventory**

	Never		Rarely		Occasionally		Frequently		Always		N	$\bar{x}$	Sd
	f	%	f	%	f	%	f	%	f	%			
a. I tend to be concerned with how students learn	2	4,4	10	22,2	12	26,7	15	33,3	6	13,3	45	3,28	1,10
b. I tend to be demanding-with high expectations based on individual ability.	0	0	10	22,2	14	31,1	17	37,8	4	8,9	45	3,33	0,92
c. I tend to be evaluative of students as they work	0	0	6	13,3	21	46,7	12	26,7	6	13,3	45	3,40	0,89
d. I tend to be concerned with how much students learn	0	0	2	4,4	15	33,3	17	37,8	11	24,4	45	3,82	0,87
e. I tend to be concerned with what students learn (concerned with the curriculum)	0	0	5	11,1	10	22,2	18	40,0	12	26,7	45	3,82	0,97
f. I tend to be lesson plan oriented	0	0	3	6,7	22	48,9	13	28,9	7	15,6	45	3,53	0,84
g. I tend to be authoritative to reach group objectives	0	0	5	11,1	19	42,2	12	26,7	9	20,0	45	3,55	0,94
Overall Mean Score												3,53	0,70

As the table above demonstrates, 2 of the teachers are not concerned with how students learn. It shows that they completely ignore the individual differences and learning styles of the students. Besides, 10 of the teachers report that they rarely consider how students learn. 12 of the teachers are sometimes, 15 of the teachers are frequently, and 6 of the teachers are always concerned with how students learn. Instead, the results show that most of them are concerned with what students learn. In other words, they are concerned with the curriculum. Furthermore, 22 teachers claim that they are sometimes lesson-plan oriented. 13 teachers report that they are frequently, and 7 teachers report that they are always lesson-plan oriented. Not all of the teachers tend to be demanding with high expectations based on individual ability. However, nearly half of the teachers are occasionally evaluative of students while they work. 12 teachers are frequently, and 6 of the teachers are always evaluative of students. It means that most of them check the students' progress and question the students. Majority of the teachers are concerned with how much students learn. Finally, according to results, 9 teachers claim that they are always authoritative to reach group objectives. It means that teachers have the same objectives for every student in the same class. 12 teachers report that they are frequently, 19 teachers state that they are occasionally, and 5 teachers say that they are rarely authoritative to reach group objectives.

**Table 4.16 The Results of ‘Educational Philosophy’
in Teaching Style Inventory**

	Never		Rarely		Occasionally		Frequently		Always		N	$\bar{x}$	Sd
	f	%	f	%	f	%	f	%	f	%			
a. Open education without a class atmosphere	25	55,6	8	17,8	4	8,9	6	13,3	2	4,4	45	1,93	1,26
b. Diagnostic teaching	5	11,1	12	26,7	17	37,8	9	20,0	2	4,4	45	2,80	1,03
c. Multiage groupings	29	64,4	11	24,4	3	6,7	2	4,4	0	0	45	1,51	0,81
d. Matched teaching and learning styles	8	17,8	5	11,1	15	33,3	14	31,1	3	6,7	45	2,97	1,19
e. Student-centered curriculum	7	15,6	11	24,4	8	17,8	13	28,9	6	13,3	45	3,00	1,31
f. Humanistic Education	1	2,2	4	8,9	15	33,3	11	24,4	14	31,1	45	3,73	1,07
g. Independent Study	8	17,8	6	13,3	16	35,6	11	24,4	4	8,9	45	2,93	1,21
h. Individualized teaching	5	11,1	14	31,1	13	28,9	10	22,2	3	6,7	45	2,82	1,11
i. Traditional Education	4	8,9	10	22,2	16	35,6	10	22,2	5	11,1	45	3,04	1,12
j. Whole-class education	2	4,4	7	15,6	15	33,3	14	31,1	7	15,6	45	3,37	1,07
k. Teacher- dominated instruction/teaching	5	11,1	8	17,8	16	35,6	11	24,4	5	11,1	45	3,06	1,15
Overall Mean Score												2,83	0,57

Dunn and Dunn (1993) claim that most teachers’ philosophy is far more individualized than their methods, and that’s why they recognize the need for at least some expansion of their style (p. 419). However, the results are not as what Dunn and Dunn (1993) claim to be. On the contrary, the overall mean score of this section is far lower than some of the overall mean scores of the other sections in the questionnaire. The reason for this is some of the items in the philosophy section do not match the educational philosophy of most Turkish schools. Therefore, a great number of teachers preferred to disagree with some of the statements. Nevertheless, the questions were not excluded from the questionnaire since there could be some

teachers whose education philosophy matches with these in theory. More than half of the teachers do not agree with the first item of this section, which is open education without a class atmosphere, and the third item of this section, which is the concept of multiage groupings. It is remarkable that 5 of the teachers completely reject the theory of diagnostic teaching. It means that they do not find out the individual differences and learning styles of the students. 12 of the teachers rarely do, 17 of the teachers occasionally favor diagnostic teaching. On the other hand, 9 teachers frequently make diagnosis whereas 2 of the teachers always do. However, this number cannot be adequate to make a generalization that most teachers favor the theory of diagnostic teaching. The same inference could be made for the idea of matched teaching and learning styles. There are 14 teachers who agree and 3 teachers who strongly agree with the concept of the matching teaching and learning styles. In a similar manner, the number is not adequate to make a generalization that most teachers apply the theory of matched teaching and learning styles. Results show that some of the teachers fancy student-centered curriculum, and most of them favor humanistic education. The concept of independent study is not an idea, which all the teachers accept. Therefore, some of the teachers prefer a teacher-dominated instruction while some of them facilitate independent study in the classroom. As the similar statements of other sections support it, more than half of the teachers accept whole class education. Finally, the results show that most teachers are in favor of individualized teaching in theory, even few of them try to apply it in class, but they cannot give up traditional education.

CHAPTER 5

CONCLUSION

5.1 Introduction

In recent years, some researchers and teachers, shifting their attention from teaching methodology to the individual differences of learners, have begun to study and experiment in the field of learning styles. The aim of these studies with learning styles is, of course, to understand the individual differences better and to deal with these differences in the classroom.

Supporters of learning style movement like Dunn (1984), Carbo (1984), Dunn & Dunn (1993), and many others argue that teaching through learners' strongest learning style preferences, regardless of the content, increases academic achievement and improves attitudes towards the courses being taught.

Reid (1987) claims that almost 90 % of conventional classroom instruction is geared to the auditory learner, and 20 % to 30 % of any large group could remember 75 % of what was presented orally (p.99). In order to solve this problem, some learning style theorists suggest matching teachers' and students' styles, considering that in this way students will be exposed to teaching styles that are consistent with their learning styles (Dunn, 1984, p.14).

5.2 Conclusions and Discussions

This study searched into the learning style preferences (LSPs) of preparatory school students at some Anatolian High Schools, accepting LSP as individually different ways that students prefer to learn. The target schools were selected to be Anatolian High Schools, where foreign language education is generally considered to

be applied more comprehensively and effectively when compared to other schools. The LSP of students were analyzed statistically to find out which learning style or styles are the highly preferred ones. Likewise, statistical analyses were performed to find out the major teaching style of the teachers. Then the results of the both studies were compared to find out whether the teachers' teaching styles match with their students' learning styles. Furthermore, a statistical procedure was run to detect if the teachers vary their instruction in line with the students learning styles and individual differences.

In order to reveal the similarities or differences of the students' perceptual learning styles and teachers' perceptual teaching styles, questionnaires were delivered to both groups at six different Anatolian High Schools in Ankara. The responses of the students are computed, and then analyzed via SPSS. The discussions are made according to the overall mean scores of each variable. The items of both students' questionnaire and teaching style inventory are analyzed separately, and frequencies and percentages are detected. Then the results of the students' questionnaires are illustrated with overall mean scores of each learning style in the table.

However, the scores of perceptual teaching style questionnaire were not figured out by SPSS since the number of the teachers who participated in the perceptual teaching style questionnaire was far lower than the number of students who participated in the administration of the perceptual learning style questionnaire. The results show that the learning styles of the students match to the teaching styles of their teachers' to a great extent. The style, which has the highest mean score in the students' questionnaire, was kinesthetic learning style. The teachers' responses also

show that they generally prefer a kinesthetic teaching style in classroom. Furthermore, one of the results which is deduced after analyzing the scores was that students are considered to be having a combination of styles. In other words, the students seem to be multiple-style learners. This means that students need multiple ways to be able to acquire knowledge. Moreover, they prefer to learn English through a variety of activities and learning styles. This provides a reference for teachers to use when they are selecting their strategies and methods.

At the beginning of the study, it was hypothesized that teachers do not diagnose the learning variables and which learning styles of the students affect learning in general. This hypothesis was supported by the results of the teaching style inventory, which was distributed to 45 English teachers at six different Anatolian High Schools. The results illustrate that most teachers do not apply multisensory teaching in class. What is more, they do not vary their teaching materials according to students' sensory modes. Above all, they do not tend to diagnose each student's individual differences, needs and interests. They are mostly interested in what students learn, but not how students learn. All the same, teachers sometimes use some activities such as role-playing or simulations, which address to kinesthetic learners. However, they admit having to use those activities as they are covered in a communicative course book. Therefore, it could be concluded that they are mostly guided by a course book, and they address to students' learning styles as much as the course book itself permits. They do not vary their instruction adequately with extra teaching materials. Smith and Renzuli (1984) say 'a teacher who can purposefully exhibit a wide range of teaching styles is potentially able to accomplish more than a teacher whose repertoires are relatively limited' (p.49).

Meanwhile, one should bear in mind that there is always a risk that the participants generally tend to give the ideal answer rather than giving the answers that are true for them. Nevertheless, the teachers who were exposed to the teaching style inventory may have been more honest since they knew that no questionnaires would be applied to their students. On the other hand, the teachers who took perceptual teaching style questionnaire were notified that their students would also be taking perceptual learning style questionnaire. According to Doyle and Rutherford (1984), identifying learning styles is a complex problem (p.24). Gregorc, also, lists three shortcomings of self-assessment instruments: 1. The instruments are exclusive, that is, they focus on certain variables; 2. The students may not self-report accurately; and 3. the students have adapted for so long that they may report on adapted preferences (cited in Reid, 1987, p.102).

Due to the time limitations, the researcher was not able to make classroom observations in order to verify whether the teachers' and students' preferences indicated in the questionnaires related to their actual strengths, and therefore, had to base the study only on the self-report data of the questionnaires. Another difficulty in the study was most of the teachers were reluctant to participate in the research and respond to the questions in the teaching style inventory and perceptual teaching style questionnaire. All these factors might have affected the results and generalizations.

Despite the limitations in the administering process of the questionnaires, the findings in this study were consistent with some observations in the literature. First of all, there seemed a general tendency among Turkish EFL learners in Anatolian High Schools toward combinations with kinesthetic learning. Though many have a combination of styles, kinesthetic learning was the most preferred way of retaining

new information by all the subjects. This confirms Reid's (1987) findings that there was a relationship between language and culture background of the individuals and their perceptual learning style preferences (p.99). This also confirms Dunn & Dunn's (1993) findings that most secondary and high school learners have a tendency towards kinesthetic learning (p.394).

To sum up, the results show that, there is a similarity between the perceptual learning styles of the students and perceptual teaching styles of the teachers. However, the results of the teaching style inventory, which was distributed to the other English teachers at six different Anatolian High Schools, illustrate that most of the teachers do not apply a diagnostic teaching in order to assess the learning styles and apply multisensory teaching.

These results may increase the awareness of the perceived needs and preferences of students, and thus increase the motivation of both the students and teachers. Students may benefit particularly from a discussion of learning styles, self-assessment instruments, and experience with alternative styles that will help them function better in classrooms. Also, an increased awareness of teachers of the preferences of students may lead to more informed decisions on the side of teachers when they are selecting methods and activities. To sum up, understanding and use of different teaching styles by the teachers, as well as the awareness of individual learning styles by the learners may determine effectiveness of teaching and learning interaction in the classroom.

The results show that many teachers prefer to give lectures while presenting a new subject. It is well known that teaching students by lecture is likely to be effective only for auditory or auditory/tactile learners who listen and take good notes.

However, note taking requires that students understand the “most important things” the teacher is saying. Regardless, lecturing is a well-established, convenient method for both the teachers and for auditory students and will undoubtedly continue in most classrooms. Therefore, if a teacher is going to lecture, Dunn & Dunn (1993) suggest the following method:

1. Introducing new and difficult material through each student’s perceptual strength
2. Reinforcing through a secondary or tertiary strength
3. Having the students then use the newly acquired knowledge in a creative way (p. 404).

According to Dunn & Dunn (1993), these methods are likely to increase the effectiveness of lecturing (p. 404).

In order to introduce a new and difficult material through each student’s perceptual strength, one should first diagnose his/her students’ learning styles. However, the results of the teaching style inventory show that many teachers do not apply a diagnostic teaching. Dunn & Dunn (1993) suggest that a teacher acquire a learning style inventory, in other words, a self-assessment questionnaire that detects each student’s perceptual strength (p. 404). The teacher can also make use of his/her classroom observations along with the results of the self-assessment questionnaires. Dunn & Dunn (1993) also suggest that the teachers discuss the contents of the inventory so that the students realize that everyone has a learning style; no one is never too old to begin capitalizing on his style; all styles are good-everybody has strengths, albeit different ones; and the teachers are going to show them how to use their perceptual strengths to their best advantage (pp. 404-405). Meanwhile, teachers

are considered to be having responsibilities for arousing interest in the concept of learning styles; making aware that each student has his/her learning style or styles; adjusting his/her teaching according to students' differences and styles; and also varying his/her teaching repertoire with appropriate teaching methods and techniques. On the other hand, the students could also contribute to this effective teaching and learning process. As it is mentioned at the beginning of Chapter 2, teaching can be neither defined apart from learning nor considered to take place on its own. It is concluded that teaching and learning are mutually exclusive. Consequently, students have a big role in the teaching/learning process as well as teachers. Once, the students are made aware of their major learning style or styles, they should make an effort to develop their minor learning styles in the guidance of their teachers. As it is mentioned before, learning styles are the result of both nature and nurture. Furthermore, they can be extended or trained (Cheng & Banya, 1998, p.80).

The results of the students' questionnaire in this study indicate that students have a high perceptual strength of kinesthetic and tactile styles. Therefore, the teachers could make use of games, role-plays, and task cards. One of the shortcomings of the EFL classrooms in some Anatolian High Schools is that teachers do not make use of media, which is often used in an EFL classroom. They could make use of newspapers or magazines so that they could address to students' visual strength. They could also make use of videotapes so that the students can watch films, episodes in English. Consequently the teachers can address to both visual and auditory learners. Moreover the students can be allowed to act out a scene in the film so that kinesthetic learners will enjoy the lesson. Nevertheless, teachers report that

they only use a cassette player to listen to the listening passages within the course book. Therefore, it is suggested that the teacher should use as many multisensory resources as s/he can for the different learners in class. To sum up, they should vary their teaching repertoire appropriately for the target group of students.

5.3 Implications for Further Research

Many aspects of learning styles of EFL learners might need further research and analysis. It is suggested that, for example, the researchers verify the results of self-report instruments with classroom observations or to determine whether the subjects behave in actual situations as they indicate in the questionnaire. Furthermore, the questions concerning modification and expansion of learning styles might also be answered. For instance, do language learners adjust their learning styles in order to adapt to the teaching styles of their teachers? Do students from one field of study adjust more easily than students from other fields? This study was devised for preparatory students learning English at Anatolian High Schools. Moreover, it could be devised for Turkish EFL learners at universities so that learners from different departments could participate in the study and remarkable differences could be observed among the different student groups.

The relationship between teaching/learning styles also needs to be studied from different points of view. For instance, are there any differences in the teaching/learning style interactions at different stages of language learning? Are beginning or advanced level language students affected more positively by style similarities?

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To my family