LEARNING STYLES OF STUDENT-TEACHERS IN ENGLISH LANGUAGE TEACHING DEPARTMENTS IN SOME FACULTIES OF EDUCATION WITH RESPECT TO FOREIGN LANGUAGE LEARNING AND TEACHING

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1-Dil öğrenimi
2-Öğrenme stilleri
3-Okul başarısı
4-Öğrenme deneyimi

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1-Language learning
2-Learning styles
3-School achievement
4-Learning experience

TO MY HUSBAND

FOR HIS CONTINUOUS SUPPORT AND SENSITIVITY

AND

TO MY DAUGHTER

FOR HER UNDERSTANDING

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ABBREVIATIONS

D.E.U. : Dokuz Eylül University

G.U. : Gazi University

Ç.O.M.U. : Çanakkale Onsekizmart University

ILS: Index of Learning Styles

L2: Second Language

ÖZET

Başlık: Bazı Eğitim Fakültelerinin İngilizce Öğretmenliği Bölümünde Okuyan Öğrencilerin Öğrenme Stillerinin Yabancı Dil Öğrenimi ve Öğretimi ile İlişkisi

Yazar: Özlem Köprülü

Bu çalışma İngilizce Öğretmenliği Bölümünde okuyan birinci ve dördüncü sınıf öğrencilerinin öğrenme stillerinin belirlenmesi ve aralarında belirgin farkların olup olmadığının ortaya çıkarılması ve bu stillerin doğuştan mı yoksa öğrenme deneyimlerinden mi etkilendiğini bulmak için yapıldı. Diğer bir amacı da belirli stillerin öğrencilerin ders başarılarını etkileyip etkilemediğinin araştırılmasıydı. Örneklem grubunu, gelişigüzel seçilen, D.E.U., G.U. ve Ç.O.M.U. Egitim Fakültelerindeki İngilizce Öğretmenliği Bölümünde okuyan 812 birinci ve dördüncü sınıf öğrencileri oluşturmuştur. Öğrencilerin öğrenme stillerini belirlemek için Richard Felder ve Barbara Solomon (1996) tarafından geliştirilen (Index of Learning Styles) Öğrenme Stilleri Ölçeği kullanılmıştır.

Elde edilen sonuçlara göre, dördüncü sınıf öğrencileri birinci sınıflara göre daha aktif, daha görsel ve sözel ve daha analitik ve bütünsel düşünen çıkmıştır. Ayrıca kız öğrenciler erkek öğrencilere göre daha duyulanımlı çıkmışlardır ve D.E.U.' deki öğrenciler diğer iki üniversitedeki öğrencilere göre bütünsel öğrenmeyi daha çok tercih etmişlerdir. Öğrenciler arasında yaşlarına göre de bazı farklılıklar çıkmıştır. Yaşı büyüklerin yaşı küçüklere göre daha aktif, daha görsel ve sözel ve daha analitik oldukları görülmüştür.

Yine sonuçlara göre temkinli ve görsel, aktif ve görsel, sezgisel ve bütünsel ve duyulanımlı ile analitik ve bütünsel öğrenme stilleri arasında ilişki olduğu bulunmuştur.

Son olarak dördüncü sınıf "İngilizce Sınav Hazırlama" ve "Öğretmenlik Uygulaması" derslerinde analitik öğrenme stiline sahip öğrencilerin daha başarılı oldukları bulunmuştur.

Anahtar Sözcükler: Dil Öğrenimi, Öğrenme Stilleri, Okul Başarısı, Öğrenme Deneyimi

ABSTRACT

Title: Learning Styles of Student-Teachers In English Language Teaching Departments In Some Faculties of Education With Respect to Foreign Language Learning and Teaching

Author: Özlem Köprülü

This study has sought to discover the learning styles of freshman and senior students at English Language Teaching Departments in some Faculties of Education to see whether learning styles exhibit dramatic differences between freshman and senior students and to investigate whether these styles are inherent or can be affected by learning experiences. It has further aimed to determine whether certain learning styles are especially important in foreign language learning. The research sample consists of 812 freshman and senior students attending English Language Teaching Departments in D.E.U., G.U. and Ç.O.M.U. who were selected as subjects randomly. The ILS questionnaire developed by Richard Felder and Barbara Solomon (1996) was used in order to survey the learning style preferences of the participants.

The statistical analysis of the data revealed some differences between freshman and senior students. Seniors were found to be more active, more visual and verbal and more sequential and global than freshmen.

The results showed that female students were more sensing than their male counterparts and the students in D.E.U. were more global than the students in the two other universities where the research was conducted. There were also some differences between students with regards to their age. Older students were more active, more visual and verbal and more sequential than the younger ones. According to the results there were relationships between reflective-visual, active-visual, intuitive-global and sensing- sequential, sensing-global learning styles.

Finally, in this study a relationship was found between sequential-global learning style and "Testing and Evaluation" and "Teaching Experience" lessons

of seniors, in both of which sequential senior students were found to be more successful than their global counterparts.

Key Words: Language Learning, Learning Styles, School Achievement, Learning Experience

PART I

1-INTRODUCTION

This chapter starts with the statement of the problem in general. Then it states the problem, the research questions, the purpose and the significance of the study and its assumptions and limitations. Finally it presents definitions concerning the subject.

1.1-The Statement of the Problem

In today's world learning and knowing a foreign language has gained much more importance. In every field, foreign languages are essential, for example, in commerce, in offices and in academic and professional life. Since international relations have begun to increase, we need to know at least one foreign language. Many countries give support to help their citizens learn a foreign language. However, in spite of these measures, in some cases students fail to be successful. We can ask ourselves why some are successful and others seem to struggle rather helplessly. Moreover, some students seem to be successful in learning grammar rules and some in listening and speaking skills. Some are relaxed in a language lesson even if they encounter unknown words and structures but some others feel restless in such situations.

There are many children who are not successful in maths or reading lessons at school but they seem to have few problems while spelling the names of their favourite singers or while calculating averages in games. It can also be true that those who cannot read and write well in the classroom are quite successful in writing the words of popular songs. In an experiment with a group of woman it has been reported that they performed well on tasks of calculating money-saving shopping skills during market purchases but they were not as good at doing calculations in paper-and-pencil as in the case (Carraher and Schleman, 1995).

Lave (1988) also reported that young street vendors in Brazil were able to make error-free money calculations in their dealings on the street, but were unable to solve math problems of equal difficulty in a classroom.

This situation can be explained in this way: Knowledge that they acquire through out-of-school experiences has been self-selected because they have used their own learning preferences out of the school. Some skills are available to learners during out-of-school experiences, which are mostly under their control, but they may not be available to them in classroom settings.

We all know that students differ in many aspects while learning a foreign language:

a- Rate of Progress: Some students learn faster than others.

b- Degree of Independence: Some students depend heavily on the teacher and need constant guidance, whereas some have their own ideas and are not as dependent as the others.

c- Consistency of Performance: Some students make few errors while others commit errors continuously.

d- The Final Level Reached: Some have a better level of proficiency at the language they have been learning and some do poorly even if they had the same number of hours in class (http://members.aol.com/ChineseLLC/styles1 4.htm).

Some intelligent students may perform below their ability at school and the relationship between ability and performance in one social context might not be the same in another. The learning style is one of the factors that explains the differences in the performance of students who have the same IQ level. Learning styles are preferences, and it does not mean that students cannot learn in a different mode. Prior knowledge and motivation are also important factors for students to be successful. In order to explain the underachievement of students at school, their performance under various methods has been studied, the personalities of teachers has been described and a lot of theoretical formulations about the nature of learning have been formulated, but what about learners' different learning styles and their role in the classroom learning? (Rosenblith, 1961:388).

It has been stated by researches in psychology that the environment in which we were brought up influences our styles of processing information. For example, when the children who were not allowed to do things freely in the early years are compared with the children allowed to explore the whole house, to learn walking by climbing stairs etc., under the control of adults, it is seen that they use different styles in processing information. Child experts have claimed that the years from birth to the age of twenty-four months are the most important period in which they form the foundations of an understanding of how things work in logical and mathematical terms. When children are encouraged to have different experiences during these years, this will influence their capacity in processing information in later years (Morgan, 1997:7).

Witkin's studies have shown that learning styles are independent of intelligence. It cannot be said that one style or the other is better because they are neutral, for example, it cannot be claimed that sequential learners are better students or teachers than global learners or vice versa. However, it is important both for teachers and students to understand and value individual differences and styles.

It can be stated that each person's individuality, which he brings to the learning situation, is the most valuable asset. Learning styles show a systematic way to define some of these individual differences among learners. Individual differences show the uniqueness of personalities. In education two things should be avoided: First, it should not be assumed that teaching models are fixed and rigid and they should be used without any change for the best result. Second, it should not be assumed that learners' learning styles are fixed and unlikely to change. For a moment think that a rigid teaching method mismatches a student's fixed learning style which inevitably leads to a catastrophe but fortunately teaching methods are flexible and learners have great learning capacity, flexibility and adaptability.

We should not fail to understand that learners learn a task in varying amounts of time and progress at different rates. There should be flexibility in scheduling to enable each student to learn at the pace which will result in optimal learning.

It can be stated that no teaching method is "the good method" for learners as they present various styles in their learning and cognitive functioning. One teaching method may favour one type of learning style, while another supports a different style (Rosenblith, 1961).

Alexander Luria, in "The Working Brain: An Introduction to Neuropsychology" (1973), describes the human brain as an active part which intentionally selects, transforms and organizes information. It is also said that individuals actively form their own meaning from experiences and are not only passive recipients of events.

Hunt and his colleagues made an investigation into the relation between learning styles and teaching strategies. Hunt et.al. (1981) exposed students to various teaching strategies and there were important individual differences. Students who have a high need for a structured lesson were uncomfortable with teaching strategies that do not introduce much structure, whereas more independent students felt relaxed with a low-structured teaching strategy. Here the responsibility of a teacher must be to enable students to develop skills necessary to respond to a variety of teaching models even if they mismatch their own learning style (Joyce and Weil, 1986:439).

In the early 1960s there was an increase of interest in individual characteristics which were not a part of general intelligence and were not related to a certain subject matter but which showed systematic differences in the way individuals approached learning and problem solving tasks and these were called learning styles.

It was not until recently in the world that L2 researchers began to study learning styles for a possible explanation of individual differences in foreign language learning. Together with the study of trying to determine foreign language aptitude, there have been a

few attempts to analyze general cognitive and learning characteristics, which can be particularly relevant to language learning.

Gordon Alport, who published his book "Personality: A Psychological Interpretation" in 1937, was among the first to use the word "styles" for particularized modes of processing information used by individuals.

Style is the general characteristics of learning that apply to you as an individual and demonstrate a general pattern in your learning (H. D. Brown). You may be a visual learner but not as reflective as others. Styles mediate between emotions and cognition. Learning styles are cognitive styles used in an educational context. Learning styles are important because they are education-related expressions of the individual's uniqueness (Bruce Joyce, 1986:435).

Kefee defined learning style as following: "Learning styles are characteristic cognitive, affective and physiological behaviours that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment" (Kefee, 1974:4).

A learning style is the unique collection of individual skills and preferences that affect how a person perceives, gathers and processes information (http://www.sil.org/lingualinks/ Othersources/YorLirnngStylAndLn).

According to Dunns (1992,1993), a learning style is the way each person begins to concentrate on, process, internalize, and retain new and difficult academic information. Because everybody learns differently, the same instructional methods, environment and resources will be effective for some learners and ineffective for others.

It is also defined as "stable and pervasive characteristics of an individual, expressed through the interaction of one's behaviour and personality as one approaches a learning task."(Harvey, 1987:175).

> According to Schmek "learning style is an individual's habitual strategy for processing information regardless of the demands and characteristics of the learning environment .We can differentiate learning style from learning strategies by ascribing to learning style the connotation of a stable processing strategy and to the learning strategy the idea of flexible, conscious change in processing style to meet the demands of a particular learning situation." (Dillon, 1985:238).

Felder and Henrique describe learning styles as the ways in which a person acquires, retains and retrieves information (Felder and Henrique, 1995:21).

Dececco (1968) defined learning styles as personal ways in which the learner processes information in the course of learning new concepts. Kagan, Moss and Siegel (1963) used the term to refer to stable individual preferences in modes of perceptual organization and conceptual categorization of the external information. Likewise Messick (1969) defines learning styles as information processing habits which represent the learner's typical mode of perceiving, thinking, problem-solving and remembering. Ausubel (1968) uses the term to refer to both individual differences in cognitive organization and various self-consistent personal tendencies that are not reflective of general human cognitive functioning. For Ausubel learning styles show differences in personality organization as well as cognitive functioning and organization. Learning styles are habits that are spontaneously applied without conscious choice in a wide variety of situations.

Learning styles, by including both perceptual and intellectual domains and by their frequent implication in personality and social functioning, provide a more complete and effective characterization of the student than can be attained from intellectual tests alone (Sperry, 1972:110).

Students learn in many different ways by seeing and hearing, acting and reflecting, memorizing, reasoning logically or intuitively, etc. Various behaviours or strategies that students use while learning a new language can be observed. Students may have different learning styles. Some can depend on facts and data, others focus on theories and ideas. Some learn easily by using pictures, diagrams, schemata, and others get information more easily from the verbal form such as written or spoken explanations. Some prefer learning actively, others learn introspectively. For example, Marianne, who is shy, introverted and analytically-oriented learns Spanish through grammar exercises and by analyzing sentences. As she is not comfortable with spontaneous speech, she practices at home. Whereas sociable, extroverted and globally-oriented Jose likes social conversations in his new language and getting the general meaning without knowing every word is enough for him. Intuitive Bill tries to make a mental model or a big picture of the new language so he avoids step-by-step learning. Noriko has a tendency to use his senses such as movement, sound, sight and touch, and he wants texts that proceed step-by-step and uses flashcards. Serious Sarah makes an outline, plans her study in advance and does all the exercises. Playful Michael tells jokes in his new language, has fun with the language but has some problems in organizing his study (Oxford, http://www.ed.gov/databases/ERIC-Digests/ed317087.html).

All the above learners use different kinds of learning strategies that help them learn. Their strategies differ greatly and partly due to their having different learning styles. A

recent study claims that learning styles have a great influence on students' choice of learning strategies and both of them affect the students' outcome (Ehrman and Oxford, 1988, 1989).

Functioning effectively in any professional capacity requires working well in all learning styles modes. For example, competent engineers and scientists must be observant, methodical and careful (characteristics of sensing style) as well as innovative, curious and inclined to go beyond the known facts to interpretation and theory (characteristics of intuitive style) (Felder, http:// www2.ncsu.edu/unity/lockers/users/f/felder/public/Papers/LS-Prism.htm.)

The term "learning style" is used to include four aspects: cognitive style, that is, the preferred or habitual pattern of mental functioning, patterns of attitude that affect what a student will pay most attention to in a learning situation, a tendency to look for situations that are compatible with one's own learning patterns and a tendency to use certain learning strategies (Oxford, http://www.ed.gov/databases/ERIC-Digests/ed317087.html.)

Teachers' styles also vary. Some teachers use examples, some lecture, some demonstrate, some give importance to memory, some discuss, some focus on grammar and some on communication skills, etc. So a student's success is determined by his native ability, prior preparation and his learning style being compatible with his teacher's teaching style.

The discrepancy between students' learning styles and teachers' teaching styles may have negative effects. The students may get bored and become inattentive, may do poorly on tests, may not like the course and even may give up. When the teachers' side is considered, it is observed that teachers are faced with low grades, hostile classes, discipline problems, poor attendance and absenteeism and they may also begin to question their own competence as a teacher and may have low morale. The evidence from various studies suggests that people whose styles are matched are likely to develop positive feelings toward each other and mismatched styles create negative feelings (Grenee, 1972, Folman, 1973, Lockheed, 1977, Packer and Bain, 1978).

A teacher may be effective in one class but ineffective in another. Shumsky, Rhetts and Bruner (1968) suggest that the teacher should adjust his teaching style to the particular needs of a particular group of learners because learning performance will be optimized when teaching style is modified to match the learning style of the learner, but in practice this is not easy because it demands much of the teacher. Perhaps this explains the fact that so little teaching is really individualized.

If teachers teach exclusively in one teaching style, which favours students' less preferred learning style, students may feel uncomfortable and this discomfort may interfere with their learning. On the other hand, if teachers use exclusively a teaching style which matches students' most preferred learning style, students may not improve their weaknesses and as a result their potentials to be successful at school and as professional may possibly be hindered. Therefore, the goal of teachers and education should be to help students develop their skills in both preferred and less preferred styles. The aim of teaching must be to meet the different needs of students at least part of the time and this is called "teaching around the cycle"(Felder,http:www2.ncsu.edu/unity/lockers/users/f/felder/public/Papers/LS-Prism.htm.)

Before teaching, teachers must find out what students can do: They should learn what skills they have, whether their attitudes are positive or negative, whether they have prior learning experience and should learn their learning styles and build upon this knowledge.

A teacher must know the reasons of the failure of students. Is a learner's failure due to a personality clash with a teacher, low self-esteem, a difficulty in problem solving or decision making? Knowledge of the learner's style of processing information and his interactions with peers and authority figures will usually give the reasons for failure (Sperry, 1972:319).

Individual differences should not be used as an excuse for failure. Differences in learners demand sensitivity and flexibility in teachers. They must be sensitive to the needs of students and of the learning task. They also must be flexible in order to vary their instructional technique to adjust to the needs of the learning situation. Without flexibility, talent will be wasted, even worse much will be lost (Davies, 1981).

A language learning program will be most effective if it takes into account the motivation, strength and potential weaknesses of the learners.

If one wants to learn more effectively, it is important to identify his/her learning style. Once a person has learned the way he learns, he will use specific strategies that are compatible with his way of learning. For example, if he is a visual learner, he can use a highlighter when reading a book and different colours would appeal to his visual sense and help him concentrate on what he is studying. A student's knowledge of his own learning style helps him to plan for activities that make use of his natural skills and inclinations.

Learning style affects how a person;

1. acts in a group
2. learns
3. participates in activities

4. relates to others
5. solves problems
6. teaches, and
7. works

(http://www.sil.org/linguaIinks/languagelearning/OtherResourses/YorLrnngStylAndLn).

Knowing students' learning styles is important both for teachers and students for several reasons:

1. Poor performance in a lesson or in an activity may be thought of as a lack of knowledge or ability, but in fact it may be a difficulty with a particular learning style.
2. Teachers who know about their students' learning styles and who realize that learning styles are important can adopt teaching methods appropriately. So they are more likely to motivate the students to learn.
3. Students who learn about their learning styles become better learners, get higher marks, have greater self-confidence and have a more positive attitude towards lessons.
4. Teachers can be more sensitive to the differences, which students bring into the classroom and understand them better.

(http://www.usask.ca/tlc/utl_teaching_guide/utl_learning_styles.html.).

1.2.Historical Background:

The idea that people differ not only in their personalities and characters but also in their thinking modes is an old one and can be traced back into Antiquity (Vernon, 1973). We can see such ideas in Jung's writing as well. He contrasted the empirical fact-bound thinking of the extrovert with the personal theory-bound thinking of the introvert. Vernon (1973) found the idea of cognitive style in an article written by Klein (1951) called "The Personal World Through Perception".

The study of human cognition originated with Plato and Aristotle, but it was ignored during the first half of the twentieth century due to the influence of behaviorism on behaviour rather than internal processes.

Contrary to this, cognitive psychologists focus primarily on the internal processes involved in cognition. Cognitive psychology became important in the mid 1950s. There were a lot of factors that triggered the rise of cognitivism. First of all, an increasing dissatisfaction

with behaviorism, which emphasized behaviour rather than internal processes, was the main factor. It had been understood that the behaviouristic approach was standing in the way of understanding cognitive abilities such as the mastery of language or the processes we use in problem-solving.

The second reason was an increasing number of experimental tasks, which were conducted by Bruner, Goodnow and Austin (1956) and they allowed for a more correct evaluation of the internal processes.

Third was the advent of the computer revolution. Computer analogy provides a more realistic basis for understanding human cognition. Computers share some of the complexities of the human brain and resemble our brains in having inputs and outputs, memory stores and active processing systems (Eysenck, 1994:53).

The final factor lying behind the emergence of cognitive psychology is neurologists such as Carl Wernicke and Paul Broca. Wernicke who discovered that patients with damage to Wernicke's area of the brain had a severe impairment of the ability to understand spoken and written language but could speak quite normally (Wernicke, 1874).

In 1865 Broca found that some patients with damage to Broca's speech area had great difficulty in speaking; however, they could comprehend language normally. For many years this work was mostly ignored by psychologists (Eysenck, 1994:53).

Eysenck and Kenee (1990) stated that there are three main strands in contemporary cognitive psychology: experimental cognitive psychology, cognitive science and cognitive neuropsychology.

The first one is based on laboratory studies of cognition in normal people. Second, cognitive science tries to produce computer programs that will mimic the processes and outputs of the human brain. In cognitive science many theories have been based on the assumption that cognitive processes are in a serial fashion, that is, one at a time although the brain has a parallel processing system, in other words, able to handle more than one thing at a time. Some cognitive psychologists produced parallel distributed processing theories, which are more in accordance with the actual functioning of the brain.

The third one studies cognitive processes in damaged brains. Thus it has provided a lot of useful information on the functioning of the normal brain. For example, as a result of studies with brain-damaged patients we have now some proofs to support the theory which states that normal people have separate short-term and long-term memories.

It is very impressive that cognitive psychology has penetrated into other areas of psychology. For example, a lot of developmental psychologists approach human

development from a cognitive perspective such as Jean Piaget (1896-1980) who was interested in the successive stages of cognitive development, through which children become adults.

As a result of the approach of cognitive psychology and the experimental techniques used by cognitive psychologists, scientists have a greater understanding of the processes and structures of human cognition and they have studied language thoroughly which had been ignored by the behaviorists. In general, looking at a subject from three different angles makes it much easier to understand than if it were looked at from one single viewpoint.

Cognitive style theorist and researcher Samuel Messick stressed that individual differences make a difference:

> Each individual has preferred ways of organizing what he sees and remembers and thinks about. Consistent individual differences in these ways of organizing and processing information and experience have come to be called cognitive styles. These styles represent consistencies in the manner or form of the cognition, as distinct from the content or the level of skill displayed in the cognitive performance. They are conceptualized as stable attitudes, preferences, or habitual strategies determining a person's typical modes of perceiving, remembering, thinking, and problem solving. As such, their influence extends to almost all human activities that implicate cognition, including social and interpersonal functioning (Morgan, 1997:3).

The term cognitive style shows modes of functioning that are characteristics of a person's perceptual and intellectual activities. The research done by Witkin and his colleagues states that people tend to be consistent while approaching tasks requiring cognitive skills.

What does a cognitive style theory suggest?

> Cognitive style theory suggests that individuals utilize different patterns in acquiring knowledge. Cognitive refers to the processes involved in the overall act of processing information in becoming knowledgeable. It includes perception, judgment, values and memory. Style is used here very much the same manner as in everyday speaking terms, in that, we often do things in a different manner than someone else might in carrying out the same act. As a part of the term cognitive style , style implies that as individuals, we employ personal characteristics in the acquisition of knowledge , and more often than not, approach a learning experience in ways that differ from other individuals (Morgan, 1997:6).

Cognitive style does not show one's level of intelligence but it just describes the unique ways used by individuals in acquiring new knowledge. Information can be presented in various ways. Sometimes we get it when we choose a hobby, or other people initiate it in classroom activities and in childhood years we get it through experiences provided by adults.

Cognitive style theorists have investigated the relationship between certain cognitive preferences and individual perception of self.

> Persons with a more articulated or more global mode of cognitive functioning have also been found to differ in an important aspect of the self, namely, sense of separate identity. Persons with an articulated cognitive style give evidence of a developed sense of separate identity-that is to say, they have an awareness of needs, feelings and attributes which they recognize as their own and which they identify as distinct from those of others (Witkin, et. al.1971,8; Morgan,1997:55).

Cognitive style theory examines the particularized ways which individuals use while perceiving and conceptualizing their experiences. Cognitive style theorists suggest that there are idiosyncratic differences in the ways which people organize and process information. This theory suggests that while processing information, individuals use a relatively stable tendency to behave in a particular manner. Cognitive style theory describes the relationship between the environment and the learner. The role of individual in various and different experiences is central to this relationship.

The role of experience in the human development of learning and the central role of individuals in these events establish existentialism and phenomenology as philosophical bases for cognitive style theory.

Phenomenology depends primarily on individual experiences for analysis. It is claimed that individuals process new information derived from their experiences and the act of experiencing is affected by knowledge gained from previous experiences.

In existentialism, it is believed that individuals must fully accept freedom, and the responsibility that comes from any experience and this will enable them to live more meaningful lives.

Earlier studies of how we process information come mainly from psychology. Psychologist Arthur Jensen (1966) has reported that some capacities for learning might be available to children under particular conditions that may not be translated into abilities children can use to solve problems in a classroom environment.

Gestalt psychology, another school of thought, sees human beings as a unified whole which gives meaning for each individual part of an experience. In Gestalt psychology the often-heard statement is this: "the whole is more than the sums of its parts." Gestalt psychology was partly a response to the prevailing psychological thought, that is, Behaviorism, during the early 1900s. Behaviorists argued that experiences should be objectively observed, controlled and measured. Another school, Structuralism, believed that

a study of individual thought process should be examined by studying the individual parts of the process. Gestalt psychology, which was founded in the early 1900s by German psychologist Max Wertheimer, emerged as an important theoretical construct and Kurt Koffka and Wolfgang Köhler made it known all over the world. The above given piece of information explains the situation in Europe.

The American psychologists who did not accept the previous theories of Behaviourism and Structuralism were dealing with their own school of thought, that is, "cognitivism". Psychologists were studying the mental processes involved in problem solving through processing information, decision-making, perception and awareness and in a very short time cognitive and Gestalt psychologists understood that their interests were similar.

Köhler (1887-1967) used problem solving and insight while formulating the concepts in Gestalt psychology. He conducted some experiments with apes and as a result he reached a conclusion that apes and people use insight in problem solving. According to him, Gestalt theory involved the use of insight and the perception of relationships among elements in problem-solving situations.

> Gestaltism theorizes the whole as being made up of parts, but the whole cannot be fully understood by merely examining its individual parts. In a classroom of thirty children, for example, the class as a group cannot be understood by analyzing each child individually, apart from the group. Because when children come together as a group, the group becomes a social context that assumes a dynamic role of its own. When an adult called "teacher" is included, the group assumes a different dynamic identity (Morgan, 1997:52).

At the beginning Kurt Levin agreed with Koffka, Köhler and Wertheimer in establishing Gestalt psychology but later he began to deal more with individual perceptions that mostly emerge in environmental contexts and he termed this interest field studies.

And lastly, humanistic theories give importance to the thoughts and feelings that individuals take to and get from their experiences. They believed that the actuality of an experience cannot be completely explained by an objective observer. The essence of an experience should be interpreted solely by the person who has experienced it. So he must be given a chance to get the meanings from his relationships. In the classroom the environment must be responsive to the needs and interests of learners because the learner is in the central position to determine their own needs.

It is in this context that cognitive style theory has emerged and become important in approaches to classroom teaching and learning.

1.3. Different Learning Style Models:

In this part some information will be given about two other learning style models, which have been widely used in language education, apart from the one used in the research. The first of them is 'The Myers-Briggs Type Indicator' (MBTI) which has been widely used in educational research to describe types of personalities and cognitive style preferences since the 1970s. MBTI classifies people according to their preferences on scales derived from psychologist Carl Jung's theory of psychological types. In the early 1900s Katherine C.Briggs began to observe personality types through observations of human interactions and individual behaviour related to experience and information processing.

There are four scales in the MBTI. These are as follows;

1. Extroverts (try things out, focus on the outer world of people) or introverts (think things through, focus on the inner world of ideas);
2. Sensors (practical, detail-oriented, focus on facts and procedures) or intuitors (imaginative, concept-oriented, focus on meanings and possibilities);
3. Thinkers (skeptical, tends to make decisions based on logic and rules) or feelers (appreciative, tend to make decisions based on personal and humanistic considerations);
4. Judgers (set and follow agendas, try to come to a conclusion even with an incomplete data) or perceivers (adapt to changing circumstances, try to get more data in order to come to a conclusion) (Felder, http.//www2.ncsu/edu.unity/lockers/users/f/felder/public/papers/LS-Prism.htm.)

By combining these preferences we can form 16 different learning style types, for example, one student may be an ESTP (extrovert, sensor, thinker, perceiver), another one may be an INFJ (introvert, intuitor, feeler, judger).

The second model is Kolb's Learning Style Model (1984), which classifies students as having a preference for:

1.Concrete experience or abstract conceptualizing (how they obtain information)

2.Active experimentation or reflective observation (how they internalize information).

There are four types of learners in this model:

Type 1 (concrete, reflective): Characteristic question is "why?". They respond well to explanations of how course material relates to their interest, future careers and experience. Teachers should function as a motivator.

Type2 (abstract, reflective): Characteristic question is "what?". They respond well to information given in an organized, logical way and take advantage of it if they have time for reflection. Teachers should function as an expert.

Type3 (abstract, active): Characteristic question is "how?". They prefer having opportunities to work actively on well-defined tasks and learning by trial-and-error in an environment that lets them fail safely. Teachers should function as a coach.

Type4 (concrete, active): Characteristic question is "what if?". They like applying course material in new situations to solve real problems. Teachers should stay out of the way, maximizing opportunities for the students to discover things for themselves.

To appeal to all types of learners teachers should explain the relevance of each new topic to their life and experience (Type1), present the basic information methods related to the topic (Type2), provide opportunities for practice (Type3), and encourage application of course materials to explore things (Type4). The term "teaching around the cycle" was originally invented to describe this approach.

1.4. Learning Styles:

There have been long debates among researchers about the identification of learning styles. In several cases there is a suspicion that various researchers used different labels and tests for traits that seem identical. In this part some information will be given about the learning styles which are in the "Index of Learning Styles" which has been chosen in this particular study to find out students' learning styles.

Learning style dimension, which was used in this research, may be defined in terms of the answers to the following questions:

1. What type of information does the student preferentially perceive, sensory: sights, sounds and physical sensation; or intuitive: memories, ideas and insights?
2. Through which modality is sensory information most effectively perceived, visual: pictures, diagrams, graphs and demonstrations: or verbal: written and spoken words and formulas?
3. How does the student prefer to process information, actively: through engagement in physical activity or discussion; or reflectively: through introspection?

4. How does the student progress toward understanding, sequentially: in a logical procession of small incremental steps; or globally: in large jumps and holistically? (Felder and Henriques, 1995:22).

1.4.1.Sensing and Intuitive Learners:

Stan and Nathan are juniors in chemical engineering and roommates. They both like going to parties and watching TV. Both did well in maths and science in high school except that Nathan had higher grades.

Besides these similarities, there are a lot of differences between them. Stan is very good at mechanics and his friends call him when they have problems with cars and computers. However, Nathan cannot even change a light bulb. Stan is careful about his surroundings, remembers where he puts things and people who he only met once. On the other hand, Nathan does not notice his environment much, tends not to remember where he puts things and may not recognize people who he has known for a long time.

Nathan likes reading science fiction and mystery novels. He follows lessons easily but Stan has some difficulties concerning this, and when the teacher gives too much detailed information, Nathan gets bored. While taking tests, they show differences as well. Stan reads the first question and reads it over and over again and tries to find suitable formulas to solve the problem. While answering the question, he reads and repeats each step in the calculation again and again to be sure of himself. He usually runs out of time and gets lower grades or keeps grades at class average.

On the other hand, Nathan reads the problem quickly up to the point where he thinks he knows the answer and begins to solve it. He usually finishes early and gets higher grades, but he makes careless errors because he is not patient enough to check the results, or as he sometimes fails to read the question thoroughly, he answers different questions than the ones asked.

Stan outshines Nathan only in laboratory. Stan is careful, meticulous and brilliant at setting up and running experiments. Stan is also successful in non-laboratory classes in which the lecturer uses a lot of pictures, diagrams and gives clear outlines of problem-solving procedures, gives practical applications of theories and formulas. Stan states that these kinds of classes are the only lessons which have something to do with the real world.

In these examples Stan is a representative of sensors and Nathan is a representative of intuitors but not all sensors and intuitors are like Stan and Nathan. Sensation and intuition are preferences, not clear-cut distinctions and all people show characteristics of both types to

different degrees (Felder, http:// www2.ncsu.edu /unity /lockers /users /f/ felder /public / Columns/Stannathan.html).

People are constantly bombarded with different kinds of information both through their senses and from their subconscious mind. While choosing the necessary information, sensors tend to observe and gather data through their senses and intuitors tend to get indirect perception through the subconscious by using memory, speculation, imagination, assumption and interpretation. Everybody uses both of them from time to time, but people generally tend to use one over the other.

Sensors who tend to be practical, concrete and methodical prefer observation and experimentation, and they like to learn facts, to solve well-defined problems by using well-established methods and procedures and find practical solutions to problems and do not like surprises. They prefer guided practice and real world applications of fundamental materials. They are unwilling to accept unexpected or unconventional views and seek and provide the only right answer or a conventional one. Sensors are attentive to details, specific examples, experiences and routines and get bored with abstraction. They are good at memorizing facts and doing hand-work as they are careful and systematic, for example, laboratory work and projects, but they are not good at dealing with complications and complexities and may sometimes be slow. If a student complains about lessons having nothing to do with the real world, he/she is almost certainly a sensor. They use memorization more than intuitors as a learning strategy and feel more comfortable while following the rules.

On the other hand, intuitors, who are abstract and imaginative, like to deal with principles, concepts, theories and ideas. They prefer variety while studying and they can deal with complications, but are bored by too much detail and repetition. They accommodate new concepts and exceptions to rules better than sensors and enjoy discovering possibilities and relationships. They adapt well to new, different or unexpected points of view and respond in a non-conventional and unexpected way. They are also successful in brainstorming activities, finding new ways of looking at something or new uses of it and drawing results from a hypothesis. Unlike sensors they do not like memorization and routines, and they tend to work faster, more innovatively and more insightfully but less carefully than sensors. Intuitors prefer problems which they can use innovative solutions for.

Ehrman and Oxford (1990) studied learning strategies and teaching approaches preferred by sensors and intuitors. They found that sensors used different kinds of memorization strategies, liked practical class material, and felt more comfortable with highly-structured and well-organized classes with clear goals.

They understand and remember information better when they see its relation to real world. If there is a lot of abstraction and theoretical explanation in the classroom, they may not understand it. They should try to find specific examples and connections to real life.

However, intuitors preferred complexity and variety in teaching approaches, tended to get bored with drills and memorization, and they were able to learn better than sensors independent of their teachers' teaching style. They can make careless mistakes as they do not like details and repetition. During the exam they should try to give themselves enough time to read the entire question and check their results (http:// lorien.ncl.ac.uk/ ming/ learn/act-ref.htm).

At the beginning of language learning basic language instruction involves a lot of repetitive drills and memorization of vocabulary and grammar, which are more suited to sensors. However, if intuitive teachers move too quickly through the basic grammar rules and vocabulary in order to follow onto grammatical complexities and nuances of translation and cultural differences, sensing students may fall behind and begin to do poorly in class. Sensing students learn better when they are given facts and procedures and they are not as comfortable with symbols as intuitors. Moody notes that as language is symbolic by its nature, it is easier and more attractive for intuitors than for sensors who are more concrete and literal-minded and they must translate it into concrete mental images to understand (Felder and Henriques, 1995:22). Sensors' slowness in translating words gives them a disadvantage on timed tests because they may have to read the question many times before answering it, so they run out of time. Intuitors may also be unsuccessful on timed tests due to their impatience with reading the questions thoroughly before answering and also due to their careless mistakes.

While language learning occurs, some ambiguity is indispensable and ambiguous situations can be characterized by novelty, complexity and insolubility. As intuitors like complexity and novelty more, they can be more successful in coping with new and ambiguous situations in language learning. They grasp the language system and infer meaning from context. They start with a concept or idea and try it out to see if it works and combine theory and practice. Whereas, as sensors are not good at dealing with complications and like to solve problems by using familiar methods, they may have difficulties in dealing with ambiguities in language.

Intuitives are good at grasping systems and adaptable to different situations and cultures, and they are emphatic with others and good at judging other people's reactions. In a good learning environment, learning activities should allow them to observe and understand

people and their culture. Also classroom settings should have a lot of variety, creativity, group work and communicative activities. They learn with difficulty in a learning environment which involves repetitive and unvarying tasks. Their interest in people, empathy and desire to have close relations help them communicate easily.

To be an effective learner one must balance these styles equally well. If an individual is a more intuitive learner, he may miss important details and may be careless in doing laboratory and hand-work projects. On the other hand, if an individual is a more sensing learner, he may depend on memorization and established methods and miss innovative thinking.

Most teachers primarily use lectures and readings (words and symbols) to give information so favour intuitive students. In order to help both sensors and intuitors in a language classroom, the material presented should include a mixture of concrete information such as definitions, grammatical rules, etc. and concepts such as syntactic and semantic information, linguistic and cultural background information, etc. In science education intuitors have been found to be more successful but in this study there is not a significant difference between students' school achievement and being a sensor or an intuitor in language education (Felder, http.// www2. ncsu.edu/unity/lockers /users/f/felder/public/Papers/Secondtier.html).

1.4.2.Visual and Verbal Learners:

People receive sensory information in two ways, namely, visually and verbally. Visual learners prefer information presented visually such as pictures, diagrams, graphs, films, demonstrations, maps, tables and charts because they learn and retain information better in this way. They think well by using visual images and feel comfortable with such expressions as "Do you SEE what I mean?", "I get the PICTURE.". Visual learners should see their teachers clearly when they are speaking so they can see their body language and facial expressions. They should take notes and ask their teachers to give handouts during the lesson. They should also illustrate their ideas as a picture before writing them down. They should study in a quiet place away from verbal disturbance. Reading illustrated books may be helpful for them and visualizing information as a picture helps them memorize. During lessons if something is simply told but not shown, it is probable that visual learners will not retain it (Bogod, http://www.1dpride.net /learning style work.html).

In class and while studying they can underline, use different colours, use symbols and charts, and replacing words with symbols and initials can help them learn quicker.

On the other hand, verbal learners prefer spoken or written explanations and mathematical formulas as they learn well from books, magazines, written instructions, lecture notes, cassettes and conversations and remember better when they hear and discuss topics with other students and explain new ideas to other people. They like to join in class discussions and debates, make speeches and presentation and prefer to use verbal analogies and story telling to show a point. They succeed in being understood through written explanations, essays and letters.

The visual learning style means that a person pays attention to, thinks about, remembers and learns visual things in the environment better. A person with the verbal learning style attends to, remembers and learns the spoken word better. Students are able to use both visual and verbal styles but may prefer to learn something either by seeing a picture of it or hearing and answering questions about it.

In 1962 in teaching foreign language vocabulary Asher found that visual people learned better if the presentation of visual stimuli preceded oral presentation. Most people learn and retain more information when it is presented visually rather than in spoken or written words (Dale, 1969). However, most language lessons are verbal and in our schools little visual information is given as teachers mostly explain the subject orally, write on the board or use audio tapes, whereas diagrams, charts, demonstrations or films are seldom used.

Recent studies of learning styles in foreign language learning and teaching (Oxford and Ehrman, 1993) place reading in the visual category and imply that teachers can use reading texts to meet the needs of visual learners. Here the challenge for teachers is to find ways to make verbal classroom presentation more valuable with visual material, for example, showing photographs and drawing cartoons while presenting new vocabulary, and using films, videotapes and dramatizations to illustrate lessons in dialogues and while teaching pronunciation, grammar or reading.

What can visual and verbal learners do while learning a language? Visual learners should try to use pictures, films and draw diagrams and charts for the verbal information. They can also use colourful pens to highlight their notes. They should make their recall clues as visual as possible, such as using capital letters, colours and illustrations, whereas verbal learners can write summaries, work in groups in order to hear the explanation of their friends as well as to explain it to their classmates. In addition to these, after the lesson has finished, in order to revise the subject, they can describe the pictures or visual aids used in the classroom to someone else who was not present when the subject was taught.

development from a cognitive perspective such as Jean Piaget (1896-1980) who was interested in the successive stages of cognitive development, through which children become adults.

As a result of the approach of cognitive psychology and the experimental techniques used by cognitive psychologists, scientists have a greater understanding of the processes and structures of human cognition and they have studied language thoroughly which had been ignored by the behaviorists. In general, looking at a subject from three different angles makes it much easier to understand than if it were looked at from one single viewpoint.

Cognitive style theorist and researcher Samuel Messick stressed that individual differences make a difference:

> Each individual has preferred ways of organizing what he sees and remembers and thinks about. Consistent individual differences in these ways of organizing and processing information and experience have come to be called cognitive styles. These styles represent consistencies in the manner or form of the cognition, as distinct from the content or the level of skill displayed in the cognitive performance. They are conceptualized as stable attitudes, preferences, or habitual strategies determining a person's typical modes of perceiving, remembering, thinking, and problem solving. As such, their influence extends to almost all human activities that implicate cognition, including social and interpersonal functioning (Morgan, 1997:3).

The term cognitive style shows modes of functioning that are characteristics of a person's perceptual and intellectual activities. The research done by Witkin and his colleagues states that people tend to be consistent while approaching tasks requiring cognitive skills.

What does a cognitive style theory suggest?

> Cognitive style theory suggests that individuals utilize different patterns in acquiring knowledge. Cognitive refers to the processes involved in the overall act of processing information in becoming knowledgeable. It includes perception, judgment, values and memory. Style is used here very much the same manner as in everyday speaking terms, in that, we often do things in a different manner than someone else might in carrying out the same act. As a part of the term cognitive style , style implies that as individuals, we employ personal characteristics in the acquisition of knowledge , and more often than not, approach a learning experience in ways that differ from other individuals (Morgan, 1997:6).

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And lastly, humanistic theories give importance to the thoughts and feelings that individuals take to and get from their experiences. They believed that the actuality of an experience cannot be completely explained by an objective observer. The essence of an experience should be interpreted solely by the person who has experienced it. So he must be given a chance to get the meanings from his relationships. In the classroom the environment must be responsive to the needs and interests of learners because the learner is in the central position to determine their own needs.

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By combining these preferences we can form 16 different learning style types, for example, one student may be an ESTP (extrovert, sensor, thinker, perceiver), another one may be an INFJ (introvert, intuitor, feeler, judger).

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1.Concrete experience or abstract conceptualizing (how they obtain information)

2.Active experimentation or reflective observation (how they internalize information).

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To appeal to all types of learners teachers should explain the relevance of each new topic to their life and experience (Type1), present the basic information methods related to the topic (Type2), provide opportunities for practice (Type3), and encourage application of course materials to explore things (Type4). The term "teaching around the cycle" was originally invented to describe this approach.

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Learning style dimension, which was used in this research, may be defined in terms of the answers to the following questions:

1. What type of information does the student preferentially perceive, sensory: sights, sounds and physical sensation; or intuitive: memories, ideas and insights?
2. Through which modality is sensory information most effectively perceived, visual: pictures, diagrams, graphs and demonstrations: or verbal: written and spoken words and formulas?
3. How does the student prefer to process information, actively: through engagement in physical activity or discussion; or reflectively: through introspection?

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different degrees (Felder, http:// www2.ncsu.edu /unity /lockers /users /f/ felder /public / Columns/Stannathan.html).

People are constantly bombarded with different kinds of information both through their senses and from their subconscious mind. While choosing the necessary information, sensors tend to observe and gather data through their senses and intuitors tend to get indirect perception through the subconscious by using memory, speculation, imagination, assumption and interpretation. Everybody uses both of them from time to time, but people generally tend to use one over the other.

Sensors who tend to be practical, concrete and methodical prefer observation and experimentation, and they like to learn facts, to solve well-defined problems by using well-established methods and procedures and find practical solutions to problems and do not like surprises. They prefer guided practice and real world applications of fundamental materials. They are unwilling to accept unexpected or unconventional views and seek and provide the only right answer or a conventional one. Sensors are attentive to details, specific examples, experiences and routines and get bored with abstraction. They are good at memorizing facts and doing hand-work as they are careful and systematic, for example, laboratory work and projects, but they are not good at dealing with complications and complexities and may sometimes be slow. If a student complains about lessons having nothing to do with the real world, he/she is almost certainly a sensor. They use memorization more than intuitors as a learning strategy and feel more comfortable while following the rules.

On the other hand, intuitors, who are abstract and imaginative, like to deal with principles, concepts, theories and ideas. They prefer variety while studying and they can deal with complications, but are bored by too much detail and repetition. They accommodate new concepts and exceptions to rules better than sensors and enjoy discovering possibilities and relationships. They adapt well to new, different or unexpected points of view and respond in a non-conventional and unexpected way. They are also successful in brainstorming activities, finding new ways of looking at something or new uses of it and drawing results from a hypothesis. Unlike sensors they do not like memorization and routines, and they tend to work faster, more innovatively and more insightfully but less carefully than sensors. Intuitors prefer problems which they can use innovative solutions for.

Ehrman and Oxford (1990) studied learning strategies and teaching approaches preferred by sensors and intuitors. They found that sensors used different kinds of memorization strategies, liked practical class material, and felt more comfortable with highly-structured and well-organized classes with clear goals.

They understand and remember information better when they see its relation to real world. If there is a lot of abstraction and theoretical explanation in the classroom, they may not understand it. They should try to find specific examples and connections to real life.

However, intuitors preferred complexity and variety in teaching approaches, tended to get bored with drills and memorization, and they were able to learn better than sensors independent of their teachers' teaching style. They can make careless mistakes as they do not like details and repetition. During the exam they should try to give themselves enough time to read the entire question and check their results (http:// lorien.ncl.ac.uk/ ming/ learn/act-ref.htm).

At the beginning of language learning basic language instruction involves a lot of repetitive drills and memorization of vocabulary and grammar, which are more suited to sensors. However, if intuitive teachers move too quickly through the basic grammar rules and vocabulary in order to follow onto grammatical complexities and nuances of translation and cultural differences, sensing students may fall behind and begin to do poorly in class. Sensing students learn better when they are given facts and procedures and they are not as comfortable with symbols as intuitors. Moody notes that as language is symbolic by its nature, it is easier and more attractive for intuitors than for sensors who are more concrete and literal-minded and they must translate it into concrete mental images to understand (Felder and Henriques, 1995:22). Sensors' slowness in translating words gives them a disadvantage on timed tests because they may have to read the question many times before answering it, so they run out of time. Intuitors may also be unsuccessful on timed tests due to their impatience with reading the questions thoroughly before answering and also due to their careless mistakes.

While language learning occurs, some ambiguity is indispensable and ambiguous situations can be characterized by novelty, complexity and insolubility. As intuitors like complexity and novelty more, they can be more successful in coping with new and ambiguous situations in language learning. They grasp the language system and infer meaning from context. They start with a concept or idea and try it out to see if it works and combine theory and practice. Whereas, as sensors are not good at dealing with complications and like to solve problems by using familiar methods, they may have difficulties in dealing with ambiguities in language.

Intuitives are good at grasping systems and adaptable to different situations and cultures, and they are emphatic with others and good at judging other people's reactions. In a good learning environment, learning activities should allow them to observe and understand

people and their culture. Also classroom settings should have a lot of variety, creativity, group work and communicative activities. They learn with difficulty in a learning environment which involves repetitive and unvarying tasks. Their interest in people, empathy and desire to have close relations help them communicate easily.

To be an effective learner one must balance these styles equally well. If an individual is a more intuitive learner, he may miss important details and may be careless in doing laboratory and hand-work projects. On the other hand, if an individual is a more sensing learner, he may depend on memorization and established methods and miss innovative thinking.

Most teachers primarily use lectures and readings (words and symbols) to give information so favour intuitive students. In order to help both sensors and intuitors in a language classroom, the material presented should include a mixture of concrete information such as definitions, grammatical rules, etc. and concepts such as syntactic and semantic information, linguistic and cultural background information, etc. In science education intuitors have been found to be more successful but in this study there is not a significant difference between students' school achievement and being a sensor or an intuitor in language education (Felder, http.// www2. ncsu.edu/unity/lockers /users/f/felder/public/Papers/Secondtier.html).

1.4.2.Visual and Verbal Learners:

People receive sensory information in two ways, namely, visually and verbally. Visual learners prefer information presented visually such as pictures, diagrams, graphs, films, demonstrations, maps, tables and charts because they learn and retain information better in this way. They think well by using visual images and feel comfortable with such expressions as "Do you SEE what I mean?", "I get the PICTURE.". Visual learners should see their teachers clearly when they are speaking so they can see their body language and facial expressions. They should take notes and ask their teachers to give handouts during the lesson. They should also illustrate their ideas as a picture before writing them down. They should study in a quiet place away from verbal disturbance. Reading illustrated books may be helpful for them and visualizing information as a picture helps them memorize. During lessons if something is simply told but not shown, it is probable that visual learners will not retain it (Bogod, http://www.1dpride.net /learning style work.html).

In class and while studying they can underline, use different colours, use symbols and charts, and replacing words with symbols and initials can help them learn quicker.

On the other hand, verbal learners prefer spoken or written explanations and mathematical formulas as they learn well from books, magazines, written instructions, lecture notes, cassettes and conversations and remember better when they hear and discuss topics with other students and explain new ideas to other people. They like to join in class discussions and debates, make speeches and presentation and prefer to use verbal analogies and story telling to show a point. They succeed in being understood through written explanations, essays and letters.

The visual learning style means that a person pays attention to, thinks about, remembers and learns visual things in the environment better. A person with the verbal learning style attends to, remembers and learns the spoken word better. Students are able to use both visual and verbal styles but may prefer to learn something either by seeing a picture of it or hearing and answering questions about it.

In 1962 in teaching foreign language vocabulary Asher found that visual people learned better if the presentation of visual stimuli preceded oral presentation. Most people learn and retain more information when it is presented visually rather than in spoken or written words (Dale, 1969). However, most language lessons are verbal and in our schools little visual information is given as teachers mostly explain the subject orally, write on the board or use audio tapes, whereas diagrams, charts, demonstrations or films are seldom used.

Recent studies of learning styles in foreign language learning and teaching (Oxford and Ehrman, 1993) place reading in the visual category and imply that teachers can use reading texts to meet the needs of visual learners. Here the challenge for teachers is to find ways to make verbal classroom presentation more valuable with visual material, for example, showing photographs and drawing cartoons while presenting new vocabulary, and using films, videotapes and dramatizations to illustrate lessons in dialogues and while teaching pronunciation, grammar or reading.

What can visual and verbal learners do while learning a language? Visual learners should try to use pictures, films and draw diagrams and charts for the verbal information. They can also use colourful pens to highlight their notes. They should make their recall clues as visual as possible, such as using capital letters, colours and illustrations, whereas verbal learners can write summaries, work in groups in order to hear the explanation of their friends as well as to explain it to their classmates. In addition to these, after the lesson has finished, in order to revise the subject, they can describe the pictures or visual aids used in the classroom to someone else who was not present when the subject was taught.

1.4.3.Active and Reflective Learners:

The mental processes by which perceived information is changed into knowledge can be classified into two groups: active processing and reflective processing.

Active learners learn and remember information better while doing something actively such as discussing it, explaining it to others, applying it or testing it in some ways. It is difficult for them just to sit and take notes in the classroom because they want interaction. Active students prefer a lot of activity, a chance to do things with people, variety, adventure and risk and personal involvement in activities. Team projects are very suitable for them. However, reflective learners like to examine and manipulate information introspectively, and they understand and retain information best when they think things over before trying it out. They prefer working alone or in pairs and need time to think during the lessons. Reflective people like serious thinking, like to discuss serious questions with friends, analyze self and others, like to have time to be alone with their thoughts. They are deliberate and cautious in responding. They have a long attention span and high degree of resistance to distractions. They also have a tendency to analyze and differentiate complex things into their component parts. They like to ponder various possibilities before deciding (Sperry, 1972:110).

In learning situations that enable students to do something physical, active learners learn best, and they prefer to work in groups. However, learning situations which give the opportunity and time to think about the information presented are the best for reflective ones. Unfortunately our classes give little opportunity for either group, that is, active learners cannot do anything actively and their reflective counterparts cannot have enough time for thought.

In language classes where students have passive roles such as listening to the teacher and taking notes both group members can learn very little. For action-oriented students discussion groups can be formed and they can be encouraged to take part in oral interaction on serious topics. Group projects, dialogues, conversations, dramas and team competitions are suitable for them and they should be given freedom to move in the classroom. The teacher should also give oral encouragement and evaluate their work orally.

On the other hand, for reflective students, written assignment should be given. They should have a private place in the classroom to do their tasks alone and language classes should include reflective activities such as writing summaries and preparing questions about the material covered in the lesson. If they want to work in pairs or groups, this must be available and less importance should be given to oral presentation from these students (Mamchur, 1981). Small group exercises can be helpful for both groups in which teachers

can ask questions or give a problem like "Translate this sentence", "What is wrong with what I have just written?" etc., and students work in small groups to find the answers which lends some excitement to monotonous lectures.

In the classroom both groups can use different strategies. If classes allow little time for discussion or problem-solving activities, active learners should compensate for this by studying at home. They should try to study in a group taking turns explaining subjects to each other, for example, in groups they can try to guess exam questions.

In class if there is little time for thinking about new information, at home reflective learners can stop to think of possible questions and to review what they have learned that day. Silence can be important for them (Norton, 1989). Reflective individuals are more successful in problem-solving tasks, show a higher level of attention and are more concerned with the quality of their answers (Schwen, 1979).

Reflectives, when faced with a problem, delay hypothesis making until they have collected sufficient evidence while actives form a hypothesis quickly and usually have to go back and start all over again if the hypothesis turns out to be wrong (Fontana, 1995:204).

Team learning is an excellent way of introducing new material for both groups of students. It utilizes group learning and focuses attention on the material in several different ways, requiring students to think about the related material, discussing it, making decisions and reporting them to the teacher or the class. Team learning provides, variety and intensity to the given material (Dunn and Dunn, 1972:42).

In an active class, students discuss questions, argue and brainstorm, they do not simply listen and watch. In such a class both groups of students can learn effectively. Teachers should emphasize both practical problem-solving (for actives) and fundamental understanding of the subject (for reflectives).

Students may learn by listening, talking, doing and teaching. Learning rarely occurs when students just listen passively. Learning requires active participation on the part of the students. Despite this reality, most of our classes function in reverse. The active person, that is, talking, demonstrating, moving and directing is the teacher. The student who should be actively involved is passive. In fact, the quieter the student, the more he is appreciated by the teacher. For many years educators erroneously equated passiveness with paying close attention and learning. When students listen to their teachers, that essentially does not serve the understanding of the subject by students because people can think 400 words or more in a minute, but a speaker can speak 100 or so words in 60 seconds, thus this causes boredom on the part of the students unless they become involved in the lesson actively.

A study was carried out by the Socony-Vacuum Oil Company which concluded that students retain 10% of what they read, 26% of what they hear, 30% of what they see, 50% of what they see and. hear, 70% of what they say and 90% of what they say as they do something (Felder and Silverman, 1988:677).

At first sight, there seems to be an overlap between active learners and sensors, both of whom are interested in the external world of phenomena and between reflective learners and intuitors, both of whom prefer the internal world of abstraction. However, they are different and independent. The sensors select information out of the external world but may preferably process it either actively or reflectively, in the latter case by formulating models and drawing analogies. Likewise the intuitors select information generated internally, but may process it reflectively or actively, in the latter case by experimentation to test out the idea.

A balance of two styles is necessary because if you act and decide quickly without enough consideration, you can make wrong decisions, which may cause problems. However, if you pore over something, you may never do anything. Over reflective students, unwilling to commit themselves until they think they are ready, may show an excessive fear of being wrong. As a result, they may not utilize the valuable learning opportunities that come from making mistakes.

1.4.4.Sequential and Global Learners:

In the years 1972 and 1975 Pask and Scott observed how adult learners learned new information. He used problem-solving tasks in order to group them into two: sequential and global.

Let's have a look at Susan and Glenda who are senior students in Chemical Engineering Department. They both like to study with friends. None of them likes laboratory courses. In spite of these similarities, they have a lot of differences. At school Susan's instructors find her papers easy to grade because she gives her solutions neatly, each step following the previous one. However, Glenda does poorly on her homework and in the first exam and during the rest of the semester she tries to catch up with the class. Her solutions are not well-organized, but a jumble of numbers and equations; yet the answer appears in the end almost magically. From the above information it can be said that Susan is a sequential learner and Glenda is a global one (Felder, http://www2.ncsu.edu/unity/lockers/users/f /felder/ public/Columns/Susanglenda.html).

Sequential learners get information well in small chunks, by outlines and summaries, use simple hypothesis, can solve problems with incomplete understanding of the material

and their solutions are generally ordered and easy to follow. They learn better when information is given in a logical and sequential order with increasing complexity and prefer learning by parts. They tend to begin to learn something with separate parts and put them together to make a whole. They may not understand a topic completely at first but they can do something with it such as solving problems, passing tests, etc. since they have gotten the pieces that are logically connected. They may have difficulties in relating specific aspects to different aspects of the same subject or to different subjects. They want clear-cut distinctions, do well on true-false tests, and they are successful in determining how things work. They are organized, make lists and look at details and facts. They also like analyzing things and building up the big picture by finding and learning parts but sometimes they fail to see the big picture. They keep to one topic at one time and proceed step by step. They are motivated by their own goals and needs and successful in working independently. They are able to study well in spite of noise, mild physical discomfort, psychological problems and other responsibilities. They can ignore internal and external stimuli that are irrelevant to a learning task. They have internal motivation and abilities to learn without the help of others.

On the other hand, for global learners it seems that they gather information through unconnected fragments and understand things in a large, holistic way. They tend to learn in large jumps, in a non-linear way to get the big picture. They use more complex hypothesis while learning. They may not solve problems or may struggle with new materials for days and weeks. Suddenly a key point is discovered, a critical connection is made and they "get it". Once they have grasped the big picture, they can solve problems and can see novel connections between new material and the previous one and also between materials from different subjects. They may not see small parts or details, but they like to deal with problems intuitively and enjoy playing with ideas and being with their teachers and friends. In addition, they try to make language learning fun, and language learning in natural communication settings is more suitable for them. They can get the meaning well by means of examples, anecdotes, etc. and by applying what is explained to personal experience. They use analogies, relate ideas to everyday experience, look for alternatives and new approaches to problems. They like brainstorming activities. They tend to see things as complex, do well on essay tests, and they are successful in uniting different points of views in a wider perspective and are motivated by rewards from others such as approval, recognition, grades and money. They can learn better through group work and participation in team sports. Animations and movies appeal to globals.

We need global learners as they are the synthesizers, the multidisciplinary researchers, the system thinkers and the ones who see the connections nobody else sees (Felder and Silverman, 1988:679).

Before understanding the details of a subject, they need to understand how the present material is connected to their previous knowledge and experience, which very few teachers provide. As a result they may be slow and do poorly on tests and homework until they get the big picture. Once they get it, they often notice the connections that escape sequential learners. Leaver (1986) has suggested that sequential learners are better at grammatical structure and contrastive analysis; however, global ones are better at learning language intonation and rhythms. Sequential learners use strategies such as dissecting words and sentences into components and prefer structured teaching approaches that emphasize grammatical analysis. They are more independent from the learning environment and a low-structured learning environment allows them to use their own cognitive structure on the material. In contrast, global learners prefer holistic strategies such as guessing words from context, searching for main ideas and, they are more comfortable with unstructured approaches like Community Language Teaching, which may not be advisable for sequential learners. Global learners tend to be more successful in a high-structured environment because of their inability or unwillingness to generate their own structure. When learning material is structured, both are equal in their learning ability (Witkin and Moore, 1974).

Pask and Scott found that learners who were exposed to learning situations, which were congruent with their learning styles, outperformed those who were mismatched. Daniel summarized the errors made by mismatched sequential and global learners. The former could not "see the wood for trees" and the latter tended to over-generalize. (Daniel, 1975:85).

Sequential learners use analysis and synthesis more than their counterparts as a learning strategy. Global learners tend to view a task as a whole and to find a connection between loosely-connected ideas and they use illustrations, anecdotes and individualistic analogies avidly. Sequential learners have a narrower focus on learning, are more cautious, prefer step-by step procedures and depend more on detailed fact and evidence to have an argument. Globals may fail to make proper use of evidence in their search for interconnecting ideas, while sequentials may fail to make use of valid analogies and relationships.

Sequentials work independently, have good analytical ability, may spend too much time at the computer desk and not relate to people. The teacher's intellectual ability and command of the subject-matter are perceived as superior and worthy of respect in a

classroom by sequentials and they have an advantage in language learning due to their ability to analyze and understand the organizing principles of language systems. They prefer a systematic and organized approach to learning, and texts appeal to them. Socially-oriented topics and interpersonal teacher-structured methods would be more suitable for global students and self-structured methods and abstract topics requiring analytical abilities would be more convenient for sequential ones (Goodenough, 1990:318).

Global thinking is used more frequently by young children (Shepp, Burns and McDonough, 1980). When adults are required to answer rapidly, they tend to answer more globally (J. Smith, Kemler Nelson, 1984; Ward et.al.,1986).

The perception of relatively global people is dominated by the overall organization of the field; however, relatively sequential individuals perceive things as discrete from their backgrounds and when males and females are compared, the males tend to be more sequential (Witkin et.al.,1962) but social and interpersonal skills may be much higher among women (Tyler,1965). However, all authorities do not accept this conclusion (Maccoby and Jacklin, 1974).

Sequential people have an outstanding advantage in analytical intelligence tasks. Nevertheless, they are not superior in verbal and general intelligence (Goodenough and Karp, 1961; Witkin et.al.,1962).

Some differences have been noted in the type of defense mechanism of sequential and global individuals when they are confronted with stress and conflict. Sequential individuals are more likely to use specialized defenses such as intellectualization and isolation, whereas global ones mostly use primitive defenses such as denial and repression (Sperry, 1972; Shapiro, 1965).

Messick and Damarin claim that some situations also exist where more global people have advantages over their sequential counterparts. For example, global ones have been found to be significantly better in their memory of faces and social words although their memory for nonsocial stimuli is not generally superior (Messick and Damarin, 1964;Fitzzgibbon et.al.,1965).

There is no evidence that there is a difference in general learning ability or memory between sequential and global learners but global learners learn and remember social material better and the sequential ones remember impersonal material better.

When confronted with a situation which requires analysis, a global person might be able to analyze with acceptable skills. Yet people who characteristically have an analytic approach will perform better on tasks demanding analysis (Messick and Fritzky, 1963). An

inductive discovery–oriented approach to instruction is better suited to analytical learners while a more didactic approach is better for global ones.

Pask (1976) has used teaching materials based on extreme global or sequential principles to show that students who are mismatched with materials learn slowly and inaccurately, but those who are matched with materials learn quickly and remember them well. On the other hand, rote learning looks to involve neither style.

There is some tentative evidence that globals are introvert, impulsive, emotional and have a personality that includes aestheticism, cognitive complexity and flexibility while sequentials have a practical outlook as opposed to theoretical as the main distinguished character (Entwistle and Morison, 1983).

Witkin who used the term "field dependent" for global and "field independent" for sequential described field dependency/field independency trait as "an analytical in contrast to global way of perceiving which entails a tendency to experience items as discrete from their backgrounds and reflects ability to overcome the influence of an embedding context."(McDonough, 1986:136).

Although field independence and sequential, and field dependence and global styles have similar characteristics, field dependency/independency is sometimes taken under the name of cognitive styles in some sources and of learning styles in others. Because of this, some research conducted under this name will be given here as they are considered to be important in the explanation of the results of the questionnaire.

Cultural and parental factors may affect being field independent (sequential). Early work on socialization (Witkin et.al.,1962) led to the hypothesis that child-rearing practices which encourage separate autonomous functioning foster the development of field independence. Families that emphasize separation from parental authority have relatively field independent children. In contrast to this, child-rearing practices that encourage permanent reliance on parental authority possibly foster field dependency. Families that give importance to obedience to rules have relatively field dependent children (Witkin and Berry, 1975).

Interviews with mothers whose boys were field dependent identified several ways of their handling of the separation issue. They encouraged continued connection with her, limited their child's activities in the community, emphasized conformity, discouraged assertive and aggressive behaviour especially toward herself, and they did not stimulate the child to take responsibility on (Dyk and Witkin, 1965).

Seder found that field dependent children were subjected to coercive rearing practices which stressed authority and conformity, had standards set for them by parents, and they were punished for their aggressive and assertive behaviour.

Busse (1969) also found that mothers of field dependent children gave more commands than mothers of field independent ones. In another study by Dreyer (1975) it was found that parents of field dependent children strongly dominated family relations; however, in field independent children's families power relations changed from situation to situation and were not strictly structured.

Farming cultures have a settled village life with strong political and religious authorities which force people to obey the rules. In this society each person is expected to fulfil his own duty in order to get complete success and this obscures individualization (Morgan, 1997:71). However, hunters and gatherers are more field independent since they live in smaller nomadic groups that foster self-reliance.

Berry studied the Temne tribe in West Africa and Eskimos and included in his analysis the differences in socio-cultural factors in early childhood (1966,1971). Berry reports that the Eskimos treat their children with great kindness and punish them rarely and give considerable freedom to their children but in Temne society there is a strong ethic fostered by the secret societies, and they impose very harsh discipline on children after they arrive at the age of two and a half years. Due to these factors, he expected that the Temne were more field dependent and the Eskimos were more field independent and when measured by the Embedded Figures Test, the same result was found to be true.

In industrialized societies sex-role socialization was thought to be responsible for greater field dependency among women. Cross cultural studies showed that such a sex difference was not common in hunting societies but prevalent in agricultural societies (Witkin et.al.,1977:7).

There is an extensive research on the relation between field dependency/independency and educational-vocational preferences, choices and performances (Quinlan and Blatt, 1972; Witkin, Moore and Goodenough, and Cox, 1977). That research suggests that people are likely to prefer and do better in educational-vocational domains which their cognitive (learning) style suits. Many studies show that field independent students prefer abstract, analytical and impersonal majors such as mathematics, engineering, astronomy and physics and in these fields it is not essentially necessary to work with others. However, field dependent students tend to choose majors that deal directly with people such as social sciences, nursing, teaching and the humanities (Morgan1997:72).

Field independent people may choose art and music because these areas are suitable for their learning style (Witkin, More and Goodenough, 1977). Education in art and music may enhance their restructuring skills as well. This idea is plausible as students are taught to analyze musical or artistic compositions at these schools. The results of some experimental studies have supported the training hypothesis (Hurwitz, Wolff, Bortnick and Kokas, 1975, Mahony and Zaren, 1977).

With few exceptions studies on preadolescent (8 years old) school children have shown that boys tend to be more field independent than girls (Dreyer and Nebelkopf, 1971). In other cross-sectional and longitudinal studies, which are designed to cover the age range from preadolescence (8 years old) to young adulthood (17 years old), no significant age-sex and style interaction was found (Witkin, Goodenough and Karp, 1967).

It is said that sequential style is advantageous for language learning but the relation between this style and language learning can be due to the school system. If teachers and teaching methods favoured analytical style and perhaps disapproved global style, an improvement would be expected in some weaker sequential students and a decrease in the performance of some global learners (McDonough, 1986:137). It cannot be claimed that there is an inherent predisposition in sequential learners to learn a language better. Sequential students can be seen as the preferred learners in the classroom because their analytical approach to problem-solving and academic work seems to match the expectations of schools.

Cohen (1968:11) suggested that students with high intelligence and other abilities, but with global learning style may not be happy in the school environment because their talents do not allow them to meet the demands of formal school teaching, and they may not be successful students. She has also claimed that if a student did not have the learning style approved by the school system, he/she would automatically be in conflict with the school and would be a failure.

In problem-solving activities there are differences between sequential and global learners. Problems that require students to take an element out of its context and to use it in a restructured form would be more difficult for global learners. On the other hand, sequential learners would enjoy the challenge, as they are more analytical (Morgan, 1997:73). Sequential learners, by using their ability to perceive events and by using their problem-solving skills without the intrusion of the related factors that interrupt individual attention, are more successful in traditional teaching/learning environments. This traditional structure rewards analytical thinkers who can work alone on classroom tasks. However, if teachers

establish an environment which gives importance to cooperative and interpersonal approaches to school work, global students who are less analytical, independent and autonomous are less likely to suffer in the classroom environment (Morgan, 1997:80).

Most classes are done in a sequential manner. For example, in language lessons sequential learners prefer to be given grammar rules, enjoy being in the classroom and prefer studying alone to socializing. They may try to strengthen their global thinking ability by relating each new topic to the already known ones. According to Witkin sequential learners tend to use narrow, strictly organized sets of concepts while trying to understand new topics. However, global approach shows less rigidity. Sequential teachers prefer more formal, impersonal modes of presentation, impose structure and encourage independent students achievement and competition between individual students, and they favour the lecturing and discussion approach which give the teacher a large role in directing student learning (Wu, 1967), whereas global teachers use a looser structure, are less organized, use discussion methods and prefer to use personal and conversational techniques while interacting with students (Felder and Henriques,1995).

In the classroom where there is a global approach there are group projects, close work with the teacher and materials are related to the ethnic and social background and interests of the students. In a sequential approach there are independent activities, minimal participation of the teacher, and charts and diagrams are frequently employed.

Witkin argues that as global students need pre-structured information, and they are weak at imposing their own analytical structure, they will be more successful with sequential teachers. However, students prefer to be taught by teachers who have the same style as themselves. So there is a conflict between students' preference and what is thought to be useful for students in order to help them.

Di Stefano (1969) found that teachers and students who have different learning styles view each other negatively. In another study James (1873) asked the teachers to give grades to six students in their classes. The thoroughly sequential teachers gave the highest grades to their three sequential students rather than to global ones and the thoroughly global teachers gave it to three global students. Matching students and teachers' learning styles increases students' academic performance.

Global ones prefer situations that bring them into contact with other people. They tend to choose jobs that have a social content. They look for physical closeness to people in social interactions, and they are more open expressing their feelings (Witkin and Goodenough, 1977).

In a school everything meets the needs of sequential learners: curricula are sequential, course books are sequential and many teachers teach sequentially. To teach global learners teachers should give the goal of the lesson before presenting the steps, should provide a broad perspective about the material and should establish the context and relevance of the subject matter with students' experience. Teachers can assign creativity exercises which involve generating alternative solutions or answers and introduce materials from other diciplines. This will be highly valuable for both types of learners. Teachers can also explain to global learners their learning style, and both its advantages and drawbacks. Before beginning to study, it is better for global learners to skim the whole chapter instead of studying for short periods every night. It might be more suitable for them to study in large blocks, and they should try to make a connection between subjects(Felder, http://www2.ncsu.edu/unity/lockers/users/f/felder/public/Columns/Susanglenda.html).

There is no single method that can offer every student an easy way to learn a subject. Each student learns differently and due to this, the curriculum should include a variety of resource alternatives such as books, films, slides, pictures, tapes, videotapes and cassettes.

A teacher must serve as a learning facilitator and prescriber of resources in the learning process. He/she must be responsible for diagnosing each student's strengths and weaknesses, but motivation is personal and complex. The individual student is the only person who can generate the desire and motivation for their own learning. So the teacher should be responsible for the opportunities he provides.

Schools usually do not capitalize on the existing knowledge of different learning styles. An effective instructional program should recognize each student's perceptual strengths and weaknesses and then provide learning methods and materials that make use of these strengths.

We can think of these two styles, which are the individual information processing modes, as being at the opposite sides of a bipolar plane. There are people with variations of these traits at different points between the two extremes. Students' preferences for learning style may be strong, moderate or weak and may change in time, may vary from subject to subject or in different learning situations.

It must not be supposed that one style is better than the other because depending on the circumstances the appropriate style can be chosen.

Finally, the sequential /global learning style should not be viewed as having negative or positive characteristics, but they should be viewed as different dimensions of learning preferences with important characteristics.

1.5.The Problem:

What are the learning styles of freshman and senior students at English Language Teaching Departments at Education Faculties in D.E.U., G.U. and Ç.O.M.U. and are these styles affected by their education process and do these styles affect their academic success?

1.6.The Research Problems:

This study will also try to find an answer to the following research questions:

1. Is there a difference between learning styles of the students with regard to their universities?
2. Is there a difference between the learning styles of freshman and senior students?
3. Is there a difference between the learning styles of male and female students?
4. Is there a difference between the learning styles of the students with regard to their ages?
5. Is there a difference between the learning styles of the students with respect to the types of high schools which they graduated from?
6. Is there a relationship between different learning styles?
7. Is there a relationship between the students' school achievement and their learning styles?

1.7.The Aim of the Study:

The aim of this research is to discover the varying learning styles of freshman and senior students at English Language Teaching Departments at Faculties of Education in D.E.U., G.U. and Ç.O.M.U. in order to see whether learning styles show significant differences in freshmen and seniors and to investigate whether these learning styles are inherent and stable characteristic features or they can be affected by learning experiences. This research also aims to determine whether certain learning styles are particularly significant in foreign language learning

1.8.The Significance of the Study:

Learning and knowing at least one foreign language is becoming more and more important today. In order to make the foreign language learning and teaching processes more effective, creative and productive, understanding students' learning styles is of great significance.

When a student fails, most teachers tend to focus on the student's IQ, emotional blocks and personality conflicts, but they almost never think about their learning styles and their roles in classroom learning, and they do not concentrate on the way students work and learn. We should remember that individuals with the same IQ score can approach educational tasks differently because they have different learning styles. Learning styles are preferences, but this does not mean that students cannot learn in a different mode.

In recent years researchers in the language learning area have tried to discover what goes on in learners' minds, how they internalize, process and output what they have already learned. Up to now, in general, most language teachers have thought that learners react to language learning tasks in the same way, and they have been surprised when they come to realize the fact that there are not fixed ways of response to language tasks. Teaching methods and textbooks generally have not taken individual differences into consideration such as, language learning aptitude, learning styles, attitude, motivation and personality factors although educational psychology has investigated and emphasized these differences for many years.

The findings of this study may enable teachers to expand the number of ways through which students can learn, and they can employ various techniques to give information. Although the experienced and attentive teachers know that students bring different personal capabilities to each classroom setting and although they recognize that before coming to school, each student has his own characteristics that emerge from different out-of-school experiences, the findings may help young and inexperienced teachers to get this insight about students.

Moreover, this study can contribute to language teachers' understanding of these abilities and differences between students and trying to match them with appropriate learning strategies and tasks in order to facilitate their learning.

Furthermore, it is expected that this study will shed light on the research related to learning styles of students in the field of foreign language learning.

1.9.Assumptions of the Study:

This study was conducted under the following assumptions:

1-The students included in the research answered the questions in the ILS questionnaire honestly and sincerely.

2-The research sampling represents the whole group.

3-The research model used is congruent with the aim and subject matter of this study.

1.10.Limitations of the Study:

The study was conducted with 812 day and night classes freshman and senior students at English Language Teaching Departments at the Faculties of Education in D.E.U., G.U. and Ç.O.M.U. during the 2001-2002 academic year.

1.11.Definitions:

Style: Style is the general characteristics of learning that apply to you as an individual and demonstrate a general pattern in your learning (Brown, http://www.gsu.edu/-esljmm/methods/slabrownPLTLweb.htm).

Learning Styles: Learning styles are characteristic cognitive, affective and physiological behaviours that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment (Kefee, 1974:4).

Learning Styles: The ways in which a person acquires, retains and retrieves information are called learning styles (Felder and Henrique, 1995:21).

Learning Strategies: They are defined as ways of selecting storing, manipulating, managing and outputting information which occur at all levels of learning (Das and Kirby, 1979:159).

PART II

2.RELATED RESEARCHES AND FINDINGS:

In this part we are going to present information on research carried out on learning styles and their education-related results in Turkey and abroad.

2.1. Researches In Turkey and Abroad

A master thesis entitled "An Analysis of the Learning Styles of EFL Learners at the University of Gaziantep" prepared by Nilay Balkan investigated the differences of learning styles that may inhibit or foster students learning English at the University of Gaziantep. For this aim she prepared a questionnaire herself and conducted her study on 150 prep. class and 150 freshman students and 50 female and 150 male students. In some points, no differences were found between male and female students such as their preferences for learning English by listening to the teacher in the classroom, the use of supplementary books and audio-visual aids, habits of summarizing and silent reading and learning by asking questions. However, significant differences were found on the topic of note-taking, that is, 68% of female students and 53% of male students express that they take notes regularly while learning English in the classroom. On the other hand, only16% of female students and a great number of (35%) male students do not prefer it. The result shows that note taking is more prefered by female students. On the topic of reading aloud, it is not a suitable way of learning English for most female students (70%) and only 14% of female students prefer it. It is not suitable for male students either (64%) and only 27% of male students prefer it while learning English. There is also a difference on the effect of noise, that is, most of the male (63%) and female students (70%) cannot learn English in a noisy environment. However, 32% of male and 20% of female students are not disturbed by noise, which means that female students are more disturbed by noise while learning English.

Between prep and freshman students there are no differences in the preferences for the use of audio-visual aids, asking questions, note-taking, and studying alone. However, there is a difference between the two groups about what they do when they have problems in learning English. Most prep class students (40%) ask their teachers when they have a problem, whereas freshmen prefer (48%) to ask their friends. There is also a difference in the preference for studying in groups as both groups do not choose studying in groups (56% prep class, 40% freshmen).

In another study done at Bilkent University, Anna Gorevanova investigated the relationship between students' perceptual learning styles, language learning strategies and English language vocabulary size. Sophomores from the English and American Literature Departments at Bilkent University and from the Foreign Language Philology Department at Ferghana State University were surveyed in this study. They completed a Perceptual Learning Style Preference Questionnaire, Strategy Inventory for Language Learning and the Revised I.S.P. Nation's 2000 Word Level and University Word Level Tests. Totally 57 students; 47 sophomores at Bilkent University, 10 sophomores at Ferghana State University, 11 male and 46 female students took part in this research. The results showed that kinesthetic learners formed the largest group among the students. Negative correlation was found between visual and individual learning preferences and the results of vocabulary tests. It was also found that affective strategy had a negative effect on vocabulary test results. Compensation, metacognitive and cognitive strategies were the most preferred ones, but memory strategy was not preferred by learning style groups. Finally, it was found that kinesthetic learners formed the majority of good vocabulary learners while visual ones made up the majority of poor vocabulary learners.

In her post-graduate thesis Aysun Dizdar investigated the learning style preferences of Turkish speakers of English at Turkish Universities to find out if there was a relationship between learning style preferences and test performance. There were 152 participants; 86 graduate and 66 undergraduate students in prep classes at Istanbul Technical University. A questionnaire developed by Willing (1987) was employed and the performance of the students on English language tests was determined by the Michigan Placement Test. As a result of the survey, it was found that prep school students prefer to learn English by going out and practicing English and they also preferred learning by doing, by conversations, pictures, films and videos, but studying English alone was the least preferred of all activities.

In this survey, students were categorized as concrete, analytical, communicative or authority-oriented learners (Willing, 1987). It was detected that there were no significant differences between learning style preferences of graduate and undergraduate students. There was also no difference between learning style preferences and test performance at least on a discrete point test such as the Michigan Placement Test.

Another study that is going to be mentioned is a doctorate thesis by Derya Oktar Ergür, which investigated the learning styles of students and the faculty at Hacettepe University. It was performed during the 1995-1996 academic year and the participants were

569 seniors from different departments and 310 faculty members at the same departments. David A. Kolb's Learning Style Inventory was used.

Except for age and the school they graduated from, there was a difference between learning styles and students' success, marks in high school, academic mean and the scores they got at the University Entrance Exam and their departments at university.

A difference was also found between learning styles and the faculty's gender, title and the university where they got their doctorate degrees. When female teachers and female students were compared, the students preferred the diverging style more than their teachers did. Male teachers preferred the converging style more when compared with male students. Finally, students who answered science and general ability questions to enter the departments at university preferred the diverging style more than the teachers in these departments did.

In his doctorate thesis Özgen Osman Demirbaş carried out a research study, which dealt with the effects of learning styles on students' performance in Interior Architecture education. The freshman students of 1999-2000 and 2000-2001 academic year of the Department of Interior Architecture and Environmental Design at Bilkent University were selected as the subject group for the research. In order to specify learning styles of the students Kolb's Learning Style Inventory (LSI) was used. According to the LSI four learning styles, diverging, assimilating, converging and accomodating, are defined. The researcher hypothesized that the performance scores of the students' having different learning styles may vary according to the content of the course. It was found out that the learning style preferences of the students affect their performance at different stages of a design problem. However, when all the stages of design process were taken into consideration, it was found that the students' performances progressed whatever their learning styles were.

The researcher also tried to find out if the interaction of learning styles with sex and/or high school type has any effect on performance scores in different courses. As a result of the statistical analyses no significant differences were found in the interaction of the stated factors in any course.

The last example of the research done in Turkey is a master thesis by Özlem Köprülü, in which the aim was to find out both positive and negative psyholinguistic factors that affect foreign language learning and by helping the students overcome the negative factors, facilitate their learning and keep their interest and enthusiasm at a high level. The questionnaire, which was prepared by the researcher herself was carried out in Milli Eğitim Vakfı Avni Akyol Private School on the students 11 to 13. With this research Orta Prep and

Orta 1 students' thoughts and views about psyholinguistic factors affecting their foreign language learning were revealed.

The researcher stated the following psyholinguistic factors as a result of literature review:

1-Students' attitudes and thoughts about foreign language learning.

2-Teachers' attitudes and thoughts about foreign language learning.

3-Motivation.

4-Anxiety and self-esteem.

5- Parents'attitudes and thoughts.

6-School and class environment.

7-Interest and satisfaction of needs.

8-Responsibility and negative conditioning.

9-Teachers' characteristics.

10-Students' personalities.

11-Using materials and realia and giving examples from inside and outside the classroom.

12-Type of error correction.

After the statistical anaysis of the data, the following results were gotten:

98% of the students believe that being interested in the subject is very necessary for learning. When they really want to learn a foreign language, they love their teachers and this affects language learning positively.

Most of the students believe that (79%) students 11 to 13 can understand the importance of learning a foreign language. 60% of the students want to learn a foreign language to use it in their future jobs and 40% wish to join in that culture when they are grown up. In addition, they think that knowing the advantages of learning a foreign language is a positive factor affecting their language learning.

Students mostly prefer group work to pair work. When teachers encourage the students to participate in the lesson, when they are patient towards students while they are answering a question, when they appreciate students' good deeds and behaviours inside and outside the classroom, these factors affect foreign language learning positively. However, fear of teacher in the lesson is one of the negative factors.

Most of the students want democratic teachers and think that such teachers increase their learning and responsibility. Students think that teachers'knowledge about the subject is the most important teacher's characteristics affecting foreign language learning positively.

The second one is his/her avoiding making the students feel ashamed and illtreating them and the third one is his/her being honest, hardworking and cheerful.

According to the students, teachers' giving examples from daily life and forming a relationship between the things they have learned and their daily life affect foreign language learning positively.

Most of the students (60%) prefer their teachers to correct their mistakes while speaking and to correct grammar mistakes mostly, later comes pronuncation mistakes. Peer correction also affects their language learning positively but when they have to prefer one, they prefer correction by the teacher. Students also think that teachers' making them correct their own mistakes affects language learning positively.

Finally the researcher gave the following suggestions:

In-service training courses must be held to give teachers sufficient information about students' behaviour and their motives. If teachers know how to behave students, they will not have a fear of teacher and this will remove their stress and make them learn more easily.

Teachers and parents should cooperate. Teachers should give information to parents about students' different behaviours and their reasons and show them the way to help their children.

Lastly, students should not be taught a foreign language only. At the same time, in the class, teachers should tell the students advantages of learning a foreign language in their future life.

Peter Rosati, a civil engineering professor at the University of Western Ontario, has used the ILS to assess the learning styles of 858 first and fourth year engineering students at the university. The results of the comparison between the responses of freshman and senior students revealed that seniors were more active and global than freshmen. In response to an item on "studying alone" or "studying in a group" seniors significantly preferred the group study. According to the researcher this may be due to their experiencing much more group work in laboratories and design courses in their engineering program.

Although both groups expressed a high preference for visual learning, senior students' responses were significantly stronger on some items for remembering what "they see" rather than what "they hear" and requiring that directions to a new place should be "a map or a diagram" rather than "written instructions".

Freshmen were more sequential than seniors and had a greater need to learn part by part before putting them into the whole.

Index of Learning Style (ILS)	Average Responses of Students
Active/Reflective	69% / 31%
Sensing/Intuitive	59% /41%
Visual/Verbal	80% /20%
Sequential/Global	67% /33%

Also male and female students showed a clear preference in their ILS responses for active, sensing, visual and sequential learning. The female students were significantly more reflective, verbal and sequential.

In another research B.K.Hodge, W.G.Steele and Mary C. Emplaincort at the Mechanical Engineering Department at Mississippi State University used the ILS for 1997 and 1998 academic year freshmen and 1998 academic year seniors as well as the faculty of Mechanical Engineering Department.

For active/reflective results all three student groups showed almost the same distribution as being more active. On the other hand, the faculty was strongly reflective.

For the sensing/intuitive style again all three student groups preferred the sensing learning style, but the faculty preference was slightly collected in the intuitive style part.

For the third one, all student groups were strongly visual. The faculty was more visual than verbal but not as dominantly visual as the students.

For the sequential/global learning style, the faculty indicated a slight preference for the sequential as opposed to global style. Students preferred the sequential learning style although there were significant preferences for most global categories. Especially the 1998 academic year seniors showed a greater preference for the sequential style than either freshmen group.

In other research, Liv and Reed (1994) studied the relationship between cognitive styles and learning strategies in a hypermedia–based second language learning environment. They found that field dependent (global) learners showed different learning patterns from field independent (sequential) subjects. Field dependent (global) learners watched more videoclips to get a global perspective while field independent (sequential) ones paid more attention to the relationship option which gave detailed textual information on the use of a word. They interpreted the results and found out that field independent learners were more comfortable in manipulating the course without worrying about getting lost, whereas field dependent ones tended to follow the given sequence. Nevertheless, the use of help, map, note-taking and exercise tools did not exhibit much difference.

Naiman, Frochlich and Stern (1975) chose to investigate the relationship between some cognitive styles and language learning as a part of their study, "The Good Language Learner". Only the field dependent/independent style had a definite relationship in their study. Naiman et.al. found that in high school classes they investigated, grade 12 in Toronto (Canada) public school system, field independency correlated highly with both of their proficiency measures (a sentence imitation task and a listening comprehension task). French was the language that was learned. Good language learners had an analytical approach to the subject. In the lower classes there was no difference. They also found that analytical learners made typical errors on the sentence imitation tasks. The analytical learners might omit small items of the sentence to be repeated than larger chunks while global ones were more likely to skip larger chunks.

Hoffman and Wauter (1982) and Stevens (1983) studied on the relationship between cognitive preferences and success in computer science courses for college-level learners. This research suggested that field independent learners should be given specific assignments early in their course work and should be encouraged to progress on their own, whereas field dependent ones should have their course work structured in formal teaching.

Susan Montromery, an assistant professor of chemical engineering at the university of Michigan, tried to develop multimedia instructional modules by using the Felder-Silverman preferences. She assessed her students' learning styles with the ILS and surveyed them to determine the attitudes of the different types toward different features of instructional modules. She reported that sensing and visual learners preferred demonstrations highly, while sensing learners liked to have access to derivations of equations, and active, sensing and visual learners preferred movies more than their reflective, intuitive and verbal counterparts.

Karen Burke, an assistant professor in the Child Study Department and director of the Learning Styles Center and Rita Dunn, a professor in the Division of Administrative and Instructional Leadership and director of the Center for the study of Learning and Teaching Styles, both at John's University in New York conducted some research about the learning styles of students at different grades. They selected a group of teachers to identify students' learning styles by using appropriate versions of the Learning Style Inventory (Dunn, Dunn and Price, 1996) for grades 3-4 and 5-12 and "Our Wonderful Learning Styles" (Guastello and Dunn, 1998) for grades 1-2. These assessments showed how students prefer to study, concentrate, and learn new information.

The teachers assessed each student's results with the student and their parents and the teachers gradually took students' preferences into consideration and started to teach according to students' learning style preferences for sound (noise versus quiet), lighting (bright vs. soft), mobility and learning (active engagement vs. passive listening), seating (formal vs. informal), learning alone, in a pair or with a teacher.

Heidi Downing, a classroom teacher explained that knowledge of learning styles validated what she had intuitively known about students. When teachers began to use small-group strategies such as team learning, circle of knowledge, and brainstorming (Dunn and Dunn, 1992,1993) students started to participate rather than only listen.

The teachers reported that when students learned through their learning style strengths. they began to get higher test scores than they had before. Students also became aware of how they learned and remembered new information more easily, and in addition, they began to use their learning styles strengths to study and do their homework assignments (Burke and Dean, 2001/2002).

PART III

3. METHOD:

The research model, the universe and the sample of the study, data collecting instruments used in the research, the validity and reliability results of the questionnaire, data collecting, analysis of data and the statistical process are described and examined in detail in this chapter of the study.

3.1.The Model of the Research:

This research is a kind of descriptive study done by the survey model and it is also a relational scanning model of study by means of comparison (Karasar, 1991: 84).

3.2.The Universe and the Sample:

The universe of this research is the freshman and senior students at English Language Teaching Departments in the Faculties of Education at D.E.U., G.U. and Ç.O.M.U. in the academic year of 2001-2002.

The research sampling consists of 457 freshman and 355 senior students attending English Language Teaching Departments who were selected as subjects at random. The questionnaire was administered only to the students who were present in the classroom and not to those who were not present on that day. Only freshman and senior students were included in this research because the aim was to discover if there were any significant differences between their learning styles, and if the education given at their departments affected some differences in their learning styles.

D.E.U., G.U. and Ç.O.M.U. were chosen according to the fact that G.U. is one of the oldest universities and whose Education Faculty was founded in 1926 as Gazi Education Institute. When compared, D.E.U. is a newer university whose Faculty of Education was founded in 1959 as İzmir Education Institute. Finally, Ç.O.M.U. is the university which has the most newly founded Education Faculty which was established in 1992. The distribution of the students included in the sample with regard to their universities is shown in Table 3.1.

Table 3.1. The Distribution of the Students With Regard to Their Universities

Universities	N	%
Ç.O.M.U.	158	19.5
G.U.	304	56.9
D.E.U.	350	43.1

The distribution of the students included in the sample with regard to their classes is presented in Table3.2.

Table 3.2. The Distribution of the Students With Regard to Their Classes

Class	N	%
Freshmen	457	56.3
Seniors	355	43.7

The distribution of the students in the sample with respect to their sex is indicated in Table 3.3

Table 3.3.The Distribution of the Students With Respect to Their Gender

Sex	N	%
Female	653	80.4
Male	159	19.6

The distribution of the students involved in the sample according to their age is presented in Table3.4.

Table 3.4. The Distribution of the Students With Regard to Their Age

Age	N	%
17-20	456	56.2
21+	356	43.8

The distribution of the students included in the sample with regard to types of High School they graduated from is shown in Table 3.5.

Table 3.5. The Distribution of the Students With Respect to the Types of High School Which They Graduated From

High School	N	%
Anatolian or Super High School	670	82.5
Private High School	56	6.9
State High School and Others	86	10.6

3.3.Data Collecting Instruments

In the research, the "Index of Learning Styles" (ILS) which was developed by Richard Felder and Barbara A. Solomon was administered to students. The researcher e-mailed to one of the authors, Richard Felder who gave some information about the ILS. The ILS was created in 1990-1991. The first version of the instrument was administered to several hundred people and the responses to the initial version were subjected to a factor analysis and the results were used in 1993 to design the second version, which remains the current one. A paper-and-pencil version was put on the web in 1996 and the on-line version was added in 1997 (Appendices, 110).

A validation study has been carried out by Professor Malgorzata Zywno at Ryerson University in Canada based on 557 valid questionnaires collected in her study. Her paper was presented at the 2003 Conference of the American Society for Engineering Education and the internal reliability of the scales ranged from 0.53 to 0.70. Correlational and factor analysis suggested that the ILS scales assess separate qualities, as theoretically predicted.

There are a few more studies that dealt with the ILS validation. Van Zwanenberg et al. examined learning styles of 139 engineering and 145 business students at two universities in Newcastle,U.K. using the ILS. They concluded that the internal reliability of the ILS was found to range from 0.41 to 0.65.

In a study of 255 engineering students at Tulane University, New Orleans, Livesay et al.found alpha to be in the range of 0.54 to 0.72. They also found relatively high test-retest

reliability in repeated measurements over time and concluded that the ILS was an appropriate and statistically acceptable tool for characterizing learning preferences.

In an unpublished study, Felder and Spurlin examined the ILS responses of 584 students at North Carolina State University and found alpha to be in the range of 0.55 to 0.76.

The ILS is an instrument formulated by Richard Felder and Linda K. Silverman and developed by R.Felder and B. Solomon in North Carolina State University. It classifies the learning preferences of the respondent on four continuous scales: active/reflective, sensing/intuition, visual/verbal and sequential/global. The ILS contains 44 questions totally in which the subject selects "a" or "b" as his/her answer and scoring is simple. For each of the four scales, the smaller total is subtracted from the larger one and the difference (1 to 11) and the letter (a or b) are written with the larger total. For example, if under the visual /verbal scale you had 3 "a" and 8 "b" responses, the result would be "5b". If your score on a scale is 1-3, this means you have a mild preference for one or the other dimension but you are essentially well balanced. If your score on a scale is 4-7, you have a moderate preference for one dimension of the scale and will learn more easily in a teaching environment which favours that dimension. If your score on a scale is 8-11, you have a strong preference for one dimension of the scale and you may have real difficulty learning in an environment which does not support that preference.

The ILS was chosen for a number of reasons:

1. availability (downloadable from the web),
2. length (only 44 questions),
3. time (almost twenty minutes),
4. scoring is simple,
5. interpretation is straightforward.

Reliability and validity studies of a test done in different countries and cultures are not enough as these features may change from culture to culture. Because of this, first of all, the ILS was translated into Turkish by the researcher. Two of her colleagues who are teachers of English checked the translation separately. After that, a pilot application was carried out with 89 subjects, 58 postgraduate and 31 graduate students who were attending the Summer School Courses at D.E.U. The School of Foreign Languages in July 2001.

According to the results of the pilot study, the Corrected Item-Total Correlation Indexes have been measured on the SPSS computer program at the Statistical Consultation Center at Ege University and 11 items with negative Corrected Item-Total Correlation

Indexes have been checked and translated again to make their meanings clearer by the help of three lecturers at English Language Teaching Department at the Buca Faculty of Education and this is called "Expert Opinion" which is one of the validity and reliability methods and this method was applied in 13 pieces of research in Turkey (Türk Psikoloji Dergisi,1994:30).

The Alpha (Inner Consistency) of the ILS has been measured to be 57% totally, 67% for graduate and 52% for postgraduate students. As the results over 60% is considered reliable, the reliability results for graduate students were employed because the questionnaire was going to administered to the graduate students, that is, to freshman and senior students at English Language Teaching Departments in the Faculties of Education at three different universities.

As a result of the investigation on the web sites of YÖK Documentation Center the researcher has been found to be the first person to do the validity and reliability study of the ILS in Turkey so far.

3.4. Data Collecting

Before the administration of the questionnaire, petitions were dispatched to the Heads of the English Language Teaching Departments in the three chosen universities to get the official permission to administer the questionnaire to the freshman and senior students at the aforementioned departments and after a while the permission was granted.

The ILS questionnaire was administered to 359 freshman and senior students at the Buca Faculty of Education in D.E.U. by the researcher herself with the help of the instructors in this department.

The questionnaire was sent to G.U. and Ç.O.M.U. and the Heads of the English Language Teaching Departments requested the instructors to administer the questionnaire. It was administered to 304 students in G.U. and 158 students in Ç.O.M.U. The results of the questionnaires were sent back from Ç.O.M.U. and G.U. The students answered the questions in approximately twenty minutes' time.

At the end of the second term of the 2001-2002 academic year, the researcher needed to get the average marks of the students to compare them with their learning styles and to see whether certain learning styles provide students with an advantage while learning a foreign language. For this reason the researcher and the Head of the Foreign Languages Department in the Buca Faculty of Education petitioned again to the Student's Registrar of the above stated universities to ask for the freshman and senior students' 2001-2002 academic year visa

and final exam results. By the end of September 2002, all the marks of the aforesaid students in D.E.U., Ç.O.M.U., and G.U. had been collected. Finally from October 2002 until the end of November 2002, the grades were codified on the computer and the results were taken to the Statistical Consultation Center at Ege University to compare the marks with information about the learning styles of the students.

3.5.Analysis of Data

The Statistical Package for Social Sciences (SPSS) was used for the analysis of the data obtained in the research. The T-test was used when two groups were compared to test if two variables were different or not according to a statistical comparison of the mean scores of the groups. In this study, a two-tailed level of significance 0.05, which is the most commonly preferred value, is adopted. Therefore, when p (significance level comparison of two variables) is smaller or equal to 0.05, it is considered that there is a meaningful difference between two groups. When it is greater than 0.05, then it means that there is not a significant difference between the groups

In the process of the analysis of data, the frequency, mean, percentage and standard deviation were used. Anova (One Way), T-test (while comparing two groups), F-test (while comparing three groups), Fisher's Exact Test (while comparing two groups when the number of subjects are small), Pearson Chi Square (while comparing three groups when the subjects are independent of each other) were used. By using Anova, the differences between the means can be examined and it may be determined whether those differences are likely to have occured accidentally or by means of a treatment effect.

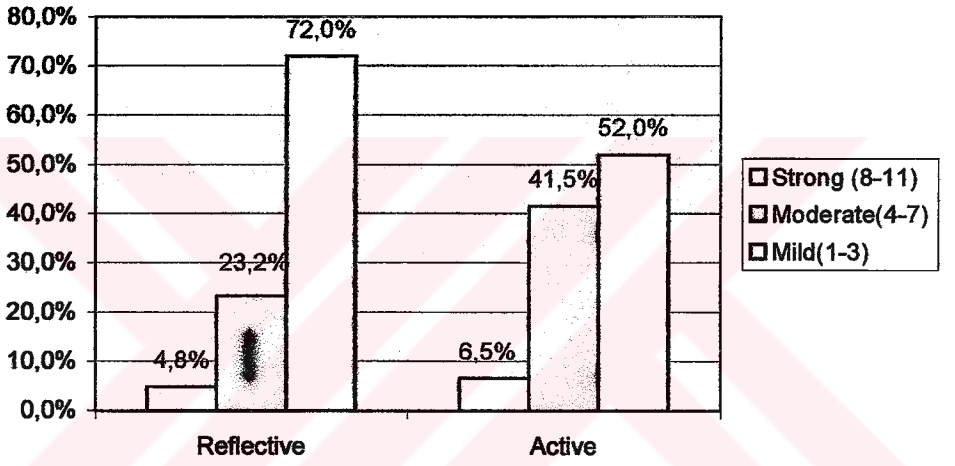
PART IV

4. FINDINGS AND INTERPRETATIONS:

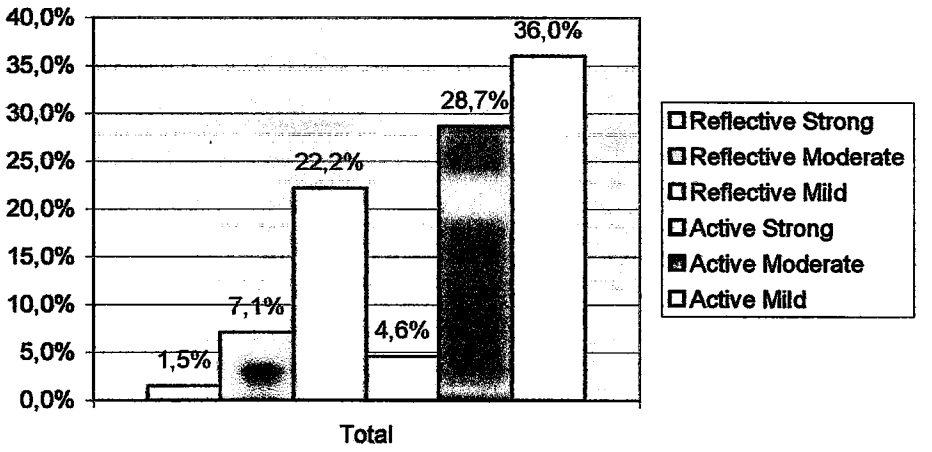
This chapter presents the findings from the statistical analysis of the data recieved from the ILS questionnaire and the interpretations of these findings.

First of all, the numbers and percentages of the students with regard to the four learning style dimensions are going to be stated in the following tables.

Table 4.1. Number and Percentage of the Students With Regard to Active/Reflective Learning Style From Mild to Strong Preference

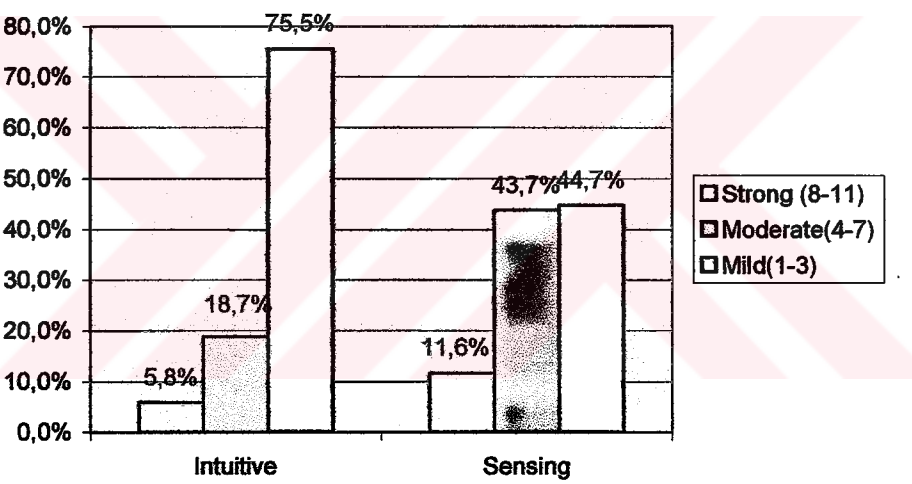


Reflective N : 250 Active N: 562

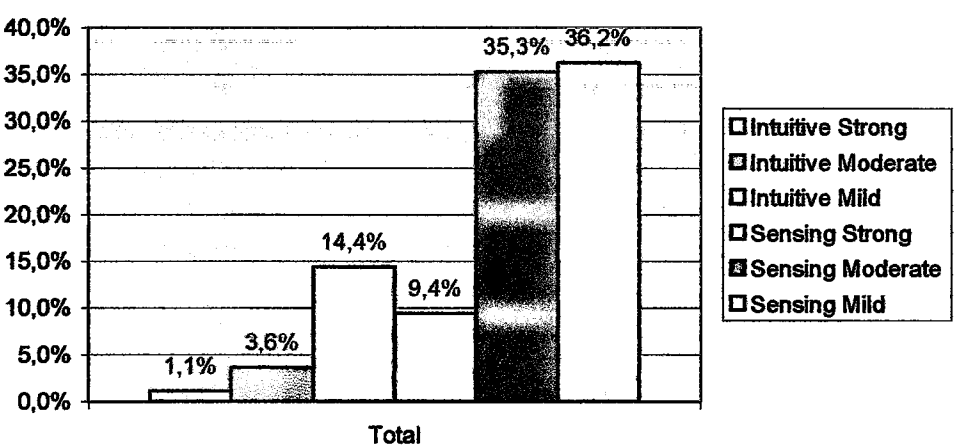


As can be seen in table 4.1.the number of the students with an active learning style is larger than the number of reflective students, and there is an accumulation for mild (22.2%) preference for reflective and mild (36%) and moderate (28.7%) preferences for active learning styles but the percentage of strong preference for reflective and active learning styles is low. This means that in general, students are essentially well-balanced in both styles as they have a mild preference for either style but the students with a moderate preference for an active dimension may learn more easily in a teaching environment which favours their style.

Table 4.2. Number and Percentage of the Students With Regard to Sensing/Intuitive Learning Style From Mild to Strong Preference

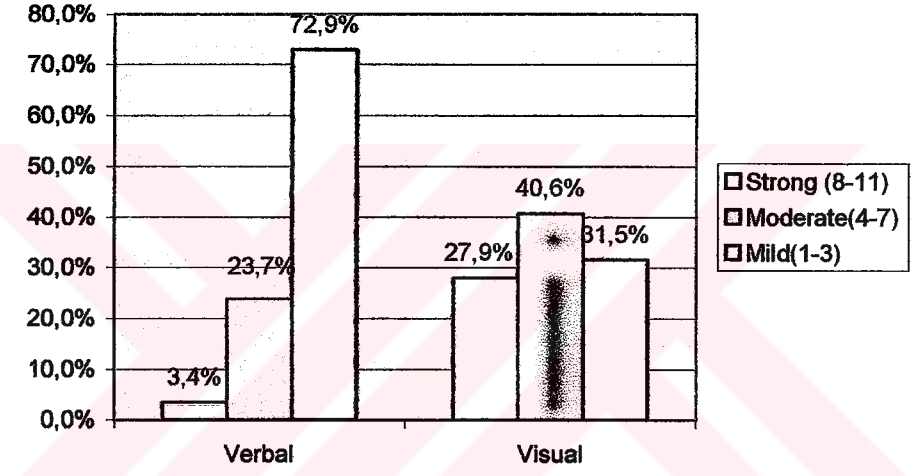


Intuitive N: 155 Sensing N: 657

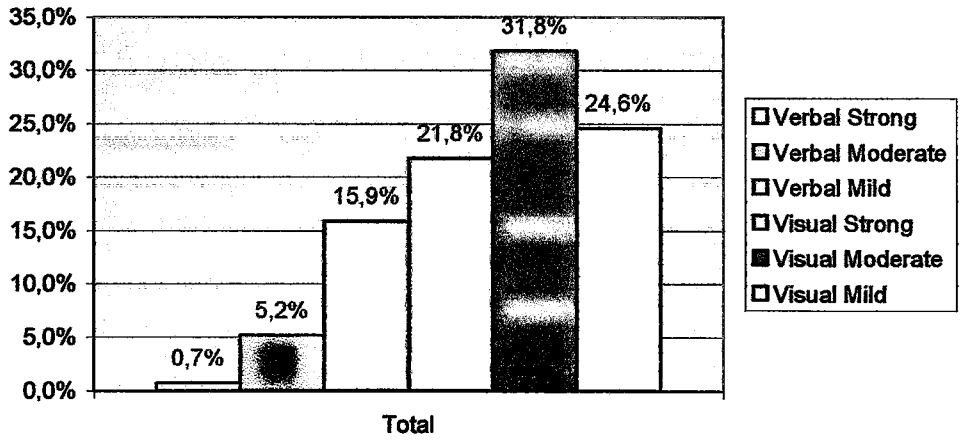


As it can be observed from table 4.2. the number of the students who are sensors is significantly higher than the number of intuitors, and the students are gathered around mild (36.2%) and moderate (35.3%) preferences for sensing learning style which means that most of the students will prefer a teaching and learning environment which supports a sensing learning style.

Table 4.3. Number and Percentage of the Students With Respect to Visual/Verbal Learning Style From Mild to Strong Preference

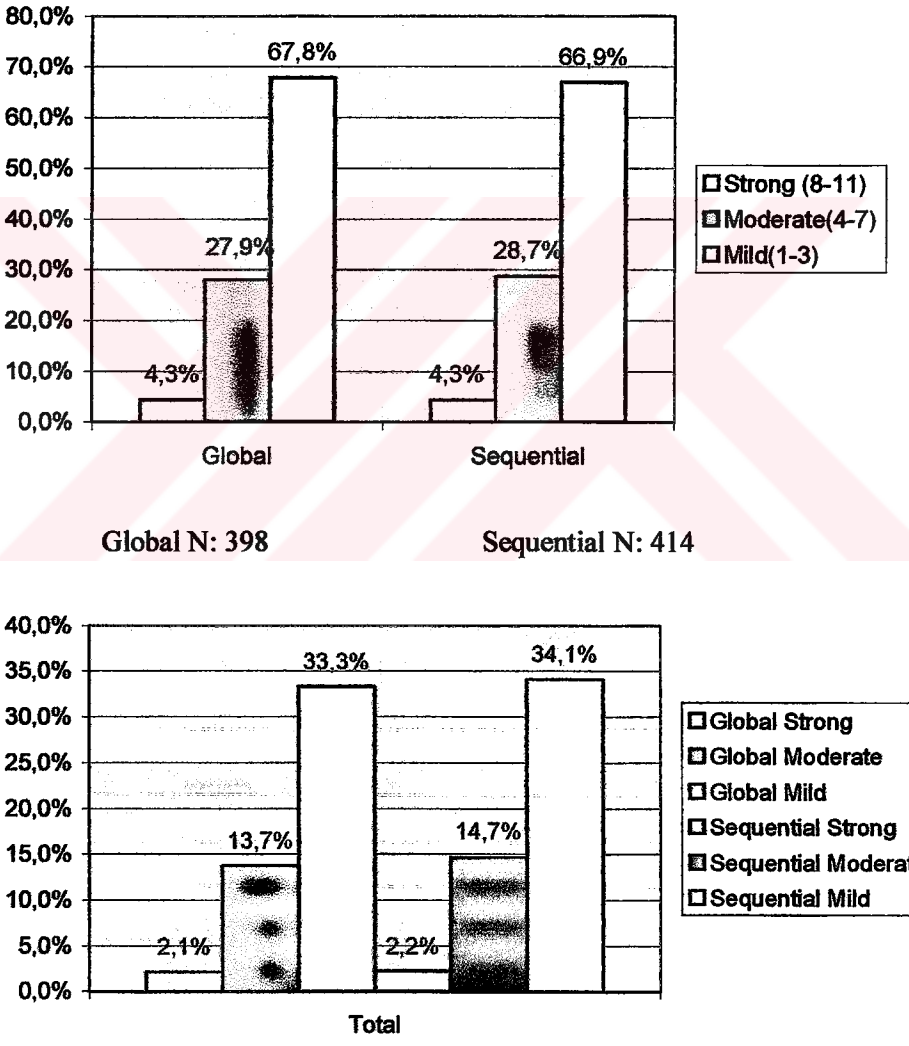


Verbal N: 177 Visual N: 635



In table 4.3. it is seen that the number of visual students is larger than the number of the students who have verbal learning style. There is a significant accumulation towards visual learning style, 24.6% of which is for mild preference, 31.8% of which is for moderate and 21.8% of which is for strong preferences and this means that almost 79% of the students prefer lessons which favour visual learning style.

Table 4.4. Number and Percentage of the Students With Respect to Sequential/Global Learning Style From Mild to Strong Preference



As can be seen in table 4.4, the number of global and sequential students is almost equal to each other, and students have mild preferences for both styles (33.3% for the global dimension and 34.1% for the sequential dimension) which means that students generally

have a well-balanced preference and can learn equally well in a learning environment which makes use of different activities and techniques supporting both styles.

In the following part the findings related to the research questions and the interpretations of the findings will be presented.

4.1.Is there a difference between the learning styles of the students with regard to their universities?

In order to see the relationship between active/reflective, sensing/intuitive, visual/verbal and sequential/global learning styles and the universities One-Way (Anova) variation analysis, means and standard deviations are calculated. After that the F-test is applied so as to determine whether the differences between the means of the universities are significant or not.

Table 4.5. The Relationship Between Active/Reflective Learning Style and the Universities

Style	Universities	n	M	SD	F	Df	sig
Reflective	1	45	-2.86	1.82			
	2	90	-3.13	2.52	0.247	247	0.781
	3	115	-2.94	2.37			
Active	1	113	3.81	2.47			
	2	214	4.15	2.57	0.688	559	0.503
	3	235	4.05	2.51			

1-Ç.O.M.U. 2-G.U. 3-D.E.U.

When the universities with regard to reflective learning style are examined, it has been revealed that the students in Ç.O.M.U. got a mean score of -2.86 , the students in G.U. got a mean score of –3.13 and the students in D.E.U. got a mean score of –2.94 with an F score of 0.247. The level of significance is 0.781, which is greater than 0.05 ($p>0.05$) and which means that there is no statistically significant difference between the reflective learning style and the universities.

As for active learning style the students in Ç.O.M.U. got a mean score of 3.81, the students in G.U. got 4.15 and the students in D.E.U. got 4.05 with an F score of 0.688, and

the level of significance is 0.503, which is greater than 0.05 (p>0.05). This shows that there is no significant difference between active learning style and the universities.

Table 4.6. The Relationship Between Sensing/Intuitive Learning Style and the Universities

Style	Universities	n	M	SD	F	df	Sig
Intuitive	1	31	-2.87	2.41			
	2	55	-2.41	2.09	2.56	152	0.081
	3	69	-3.43	2.80			
Sensing	1	127	4.66	2.59			
	2	249	4.40	2.53	0.604	654	0.547
	3	657	4.62	2.87			

As can be deduced from table 4.6., the mean score of the students in Ç.O.M.U. is-2.87, of the students in G.U. is –2.41 and of the students in D.E.U. is -3.43 with regard to intuitive learning style. With respect to sensing learning style, the students in Ç.O.M.U. got a mean score of 4.66, the students in G.U. got 4.40 and the students in D.E.U. got 4.62. The level of significance for intuitive learning style is 0.081, and for sensing learning style it is 0.547, both of which are greater than 0.05 (p>0.05), which means that there is no statistically significant difference between sensing/intuitive learning style and the universities.

Table 4.7. The Relationship Between Visual/Verbal Learning Style and the Universities

Style	Universities	N	M	SD	F	df	Sig
Verbal	1	38	-3.36	2.12			
	2	73	-3.05	2.26	0.523	174	0.594
	3	66	-2.90	2.20			
Visual	1	120	5.56	3.11			
	2	231	5.68	3.05	0.643	632	0.526
	3	284	5.91	3.21			

As it can be seen in table 4.7., the mean score of the students in Ç.O.M.U. is –3.36, of the students in G.U. is –3.05 and of the students in D.E.U. is –2.90 with respect to verbal learning style and with regard to visual learning style, the students in Ç.O.M.U. got a mean score of 5.56, the students in G.U. got 5.68, and the students in D.E.U. got 5.91. The level of significance is 0.594 for verbal and 0.526 for visual learning style, both of which are greater than 0.05, and this shows that there is no statistically significant difference between visual /verbal learning style and the universities.

Table 4.8. The Relationship Between Sequential/Global Learning Style and the Universities

Style	Universities	N	M	SD	F	df	Sig
Global	1	67	-2.73	2.19			
	2	148	-2.97	2.29	4.201	395	0.016 *
	3	183	-3.57	2.55			
Sequential	1	91	3.13	2.16			
	2	156	3.25	2.34	0.499	411	0.608
	3	167	3.41	2.30			

*p< 0.05

The difference can be seen in mean scores of the students from three universities among which the means of the students in DE.U. are higher than the means of the students in the two other universities with the level of significance of 0.016, which is smaller than 0.05 ($p<0.05$). This shows that there is a difference between the students in D.E.U. and the students in the two other universities, D.E.U.'s students being more global than the ones in the other universities. With regard to sequential learning style, there is no statistically significant difference between the universities with the level of significance of 0.608, which is greater than 0.05 ($p>0.05$).

Although in this study any questions determining the sociocultural and parental background of the students were not asked, according to Witkin (Witkin et.al., 1962) sociocultural, parental and environmental factors influence being either sequential or global. Our family is our first social environment in which families that emphasize obedience to rules and strict discipline have relatively global children, whereas families that give

importance to separation from parental authority and to the encouragement of self-expression have relatively sequential children. Interviews with mothers whose boys were global showed that they encouraged continued connection with them, limited their child's activities in the community, emphasized conformity, discouraged assertive and aggressive behaviour especially toward herself and did not encourage the child to take responsibility (Dyk and Witkin, 1965; Witkin and Berry, 1975).

Seder found that global children were subjected to coercive child rearing practices which stressed authority and conformity, had standards set for them by parents and were punished for their aggressive and assertive behaviour.

The above given reasons may explain why the students in D.E.U. are more global than the students in other universities, but this is just a possible explanation on this subject. As no questions determining this difference were inserted into the questionnaire, no certain reasons can be given for this particular difference. Further research is needed on this subject to decide on the reasons for this difference among the students at the three different universities concerning the sequential/global learning style dimension.

4.2.Is there a difference between the learning styles of freshman and senior students?

In order to see the relationship between active/reflective, sensing/intuitive, visual/verbal and sequential/global learning styles and classes One Way variation analysis, means and standard deviations are calculated and afterwards the T-test is applied in order to determine whether the differences between the means of freshman and senior students are significant or not.

Table 4. 9. The Relationship Between Active/Reflective Learning Styles and Classes

Style	Class	n	M	MD	SD	t-value	df	Sig
Reflective	1	156	-2.83	0.4433	2.23	1.456	248	0.147
	4	94	-3.27		2.48			
Active	1	301	3.71	0.7055	2 39	-3.319	559	0.001*
	4	260	4.42		2.63			

1-freshman students 4-senior students

*p<0.05

As can be seen in table 4.9., T-test analysis revealed no significant difference between the mean scores obtained by freshmen and seniors with regard to the reflective learning style with the level of significance 0.147, which is greater than 0.05($p>0.05$).

However, as for the active learning style the freshmen gained a mean score of 3.71, and seniors gained a mean score of 4.42 with a mean difference of 0.7055. The level of significance is 0.001, which is smaller than 0.05 ($p<0.05$), and such a difference is flagged as highly significant by the statistical procedure in favour of seniors' being more active than freshmen.

Active learners learn and remember better while doing something actively such as discussing it, explaining it to others or applying it and they prefer group work, team projects and interaction in the classroom. This difference between freshmen and seniors may result from the way of training seniors get in their department. As they are students in a language department, they have to use the language in their lessons, that is, they have to speak, write essays and use the language as a means to transmit information in the lessons. In a language department students cannot sit in a corner and think about the language because in this way they can learn about the language, but they cannot learn the language itself and cannot use it for various aims. So we can infer that the lessons and training seniors have received during their education in the language department may have caused them to appreciate active methods because in the future they will be teachers and have to use and do various things with the language.

In a study done by Peter Rosati on first and fourth year engineering students at the University of Western Ontario, he compared the responses of fourth and first year students and this showed that the fourth year students were more active (69%) than the first year students (31%). This research supports the results we have got in the questionnaire.

In another research done by B.K.Hodge and W.G. Steele in Mechanical Engineering Department at Mississippi State University, seniors were found to be more active when compared to freshmen.

Table 4.10. The Relationship Between Sensing/Intuitive Learning Style and Classes

Style	Class	n	M	MD	SD	t-value	df	Sig
Intuitive	1	83	-2.85	0.2279	2.29	0.560	153	0.576
	4	72	-3.08		2.77			
Sensing	1	374	4.46	0.2014	2.53	0.947	654	0.353
	4	282	4.66		2.90			

As can be inferred from table 4.10, there is no statistically significant difference between sensing /intuitive learning style of freshmen and seniors as the level of significance is 0.576 for intuitive and 0.353 for sensing learning style, both of which are greater than 0.05 ($p>0.05$). Although there is no difference between two groups, both groups are more sensing than intuitive.

In the research mentioned before done by Peter Rosati, no difference was found between freshmen and seniors with regard to the sensing/intuitive learning style which also supports our findings.

In the aforementioned study done by B.K.Hodge et al., there was no difference between the first and the fourth year students in the sensing/intuitive learning style preference and sensing is the dominant style in both groups which concurs with our findings as well.

4.11.The Relationship Between Visual/Verbal Learning Style and Classes

Style	Class	n	M	MD	SD	t-value	df	Sig
Verbal	1	130	-2.81	0.9672	1.92	2.183	174	0.033*
	4	46	-3.78		2.78			
Visual	1	327	5.28	0.9979	3.12	-4.057	633	0.000**
	4	308	6.27		3.06			

*$p<0.05$, **$p<0.001$

As can be seen in table 4.11, the T-test analysis showed a statistically significant difference between the scores gained by freshmen and seniors with regard to visual/verbal

learning style. With respect to verbal learning style freshmen got a mean score of –2.81 and seniors got a mean score of –3.78 with a mean difference of 0.9672. The level of significance is 0.033which is smaller than 0.05 ($p<0.05$) and such a difference is accepted as highly significant in favour of seniors' being more verbal when compared to freshmen.

It can be inferred that as a result of the training they got in the language department seniors preferred verbal learning techniques more as they have to listen to and understand the necessary information in the cassettes, they have to listen to and understand what people say and reply to them. They also have to learn from books, written instructions and lecture notes and have to explain their ideas correctly and clearly by writing because they will be teachers and have to speak, write, read and teach this language to their students in the future. In order to do these things it is necessary for them to learn and use verbal methods in the classroom.

With regard to the visual learning style, the mean for freshmen is 5.28 and the mean for seniors is 6.27 with a mean difference of 0.9979. The level of significance is less than 0.001, which reveals a highly significant difference between freshmen and seniors with seniors' being more visual than freshmen. Although seniors and freshmen both expressed a high preference for the visual learning style, when compared to the verbal learning style, seniors' responses were significantly stronger for the visual learning style.

Research which was carried out by the Socony–Vacuum Oil Company concluded that students retain 10% of what they read, 26% of what they hear, 30% of what they see, 50% of what they both see and hear, 70% of what they say and 90% of what they say as they are doing something. Visual learning methods provide students with more input while learning something new and enable them to retain most of the new information as they will have visual images in their minds and this will help them to remember the new information. Most people learn and retain more information when it is presented visually rather than in spoken or written words (Dale, 1969).

Rossi-Le (1995) found that older and more proficient language learners preferred learning visually (cited in Anna Gorevonova, 2000).

In the research conducted by Peter Rosati, the fourth year engineering students expressed a high preference for the visual learning style over the verbal one when compared to the first year students.

Table 4.12. The Relationship Between Sequential/Global Learning Style and Classes

Style	Class	N	M	MD	SD	t-value	df	Sig
Global	1	208	-2.96	0.5227	2.18	2.140	396	0.033*
	4	190	-3.48		2.63			
Sequential	1	249	3.09	0.5134	2.14	-2.181	411	0.030**
	4	164	3.60		2.46			

*p<0.05 , **p<0.05

As it can be observed in table 4.12., there is a high statistical difference between the mean scores of freshmen and of seniors with regard to the sequential/global learning style. With respect to the global learning style, the mean score of freshmen is –2.96, and of seniors is –3.48 with a mean difference of 0.5227. The level of significance is 0.033, which is smaller than 0.05, and this result shows a significant difference with seniors' being more global than freshmen.

The training seniors have already received in the language department for three years may cause them to prefer global learning strategies more than freshmen do. As they are students in a language department, it is necessary for them to get the general meaning and the underlying structure of a sentence. They should be able to decode different meanings of ambiguous sentences and structures. They should notice the connections between sentences and ideas in the novels and stories they have examined in the lessons. They should be able to synthesize different ideas and structures. Especially in the lessons in which they read and examine novels, short stories and poems, teachers may have expected their students to have been creative, to generate alternative explanations and answers and to bring in ideas from other disciplines, to find connections between loosely-connected ideas, and this education may have led seniors to be more global.

Global people enjoy playing with ideas, being together with their friends and teachers, and they do well on essay tests and learn better in a group work. While learning they prefer holistic strategies such as guessing the words from context, searching for the main idea and they are better at learning language intonation and rhythm (Leaver, 1986).

All the above-mentioned features are the ones which lessons in language education departments such as spoken, reading, phonetics, etc. require students to have in order to be successful.

Global people prefer situations that bring them into contact with other people, and they tend to choose jobs that have a social content (Witkin and Goodenough, 1977). In their classrooms there may have been group projects, close work with teachers and materials related to the social and ethnic background and interests of the students and this type of education may have led seniors to be more global.

With regard to the sequential learning style freshmen gained a mean score of 3.09 and seniors gained a mean score of 3.60 with a mean difference of 0.5134. The level of significance (0.030) which is smaller than 0.05 reveals a significant difference with seniors' being more sequential than freshmen are.

Seniors have also been found to be more sequential when compared with freshmen and this situation may be the result of grammar lessons they attended for three years at their departments. Because while learning the grammar of a language, they should analyze the sentences and learn grammar rules step by step from simple to more complicated ones in order of difficulty and later put them together to make it a whole. Learning grammar also requires a detailed examination of grammar rules. Problems that require students to take an element out of its context and use it in a restructured form would be an enjoyable challenge for sequential students as they are more analytical (Morgan, 1997:73). Leaver (1986) has suggested that sequential learners are better at grammatical structure and contrastive analysis. They use strategies such as dissecting words and sentences into their components. As they will be teachers one year later, it is necessary for them to understand the rules in detail in order to teach them to their students in the future.

In a study carried out by Peter Rosati (1999) on Civil and Environmental Engineering freshman and senior students, he found that freshmen were more sequential than seniors and explained this result as freshmen's having a greater need to build up their learning of a subject part by part before forming them into the whole. This result does not concur with the results of this thesis in which seniors are more sequential than freshmen are.

In another research conducted by B.K.Hodge et.al.(1999) on Mechanical Engineering freshmen and seniors, he found that the seniors showed a more marked preference for the sequential style than the freshmen group did. He concluded that one could speculate that the undergraduate Mechanical Engineering education in Misssissippi State University has to some extent convinced the seniors that logic and order are rewarded in the Mechanical Engineering curriculum, and this study is in accordance with the findings of this particular thesis.

4.3.Is there a difference between the learning styles of male and female students?

In order to see the relationship between active/reflective, sensing/intuitive, visual /verbal and sequential/global learning styles and gender One-Way Variation Analysis, means and standard deviations are calculated, and then the T-test is applied so as to determine whether the differences between the means of male and female students are significant or not.

Table 4.13. The Relationship Between Active/Reflective Learning Style and The Students With Regard to Gender

Style	Gender	N	M	MD	SD	t-value	df	Sig
Reflective	0	193	-2.91	0.3636	2.35	1.032	248	0.303
	1	57	-3.28		2.28			
Active	0	460	4.01	-0.1830	2.48	-0.661	560	0.509
	1	102	4.19		2.74			

0- female 1- male

As it can be examined in table 4.13, the T-test analysis revealed no statistically significant difference between male and female students with regard to active/reflective learning style as the level of significance is 0.303 for reflective and 0.509 for active learning style, both of which are greater than 0.05 ($p > 0.05$).

In the study carried out by Peter Rosati on Civil and Environmental Engineering students, female students were significantly more reflective than their male counterparts and this study does not support our findings.

Table 4.14 The Relationship Between Sensing/Intuitive Learning Style and The Students With Regard to Gender

Style	Gender	N	M	MD	SD	t-value	df	Sig
Intuitive	0	115	-3.05	-0.3522	2.53	-0.760	153	0.449
	1	40	-2.70		2.50			
Sensing	0	538	4.65	0.5413	2.69	1.986	655	0.047*
	1	119	4.10		2.68			

*$p<0.05$

When we look at table 4.14, it can be noticed that the T-test analysis has revealed a statistically significant difference between male and female students with regard to sensing learning style. The mean score of females is 4.65 and the mean score of males is 4.10 with a mean difference of 0.5413. The level of significance is 0.047, which is smaller than 0.05 and this result shows a significant difference with females' being more sensing than males are.

Sensors are unwilling to accept unexpected or unconventional viewpoints and seek and provide the only right answer or a conventional answer. The results of Gallagher's (1990-1992) research indicated that male students tended to outperform female students on problems whose solutions were not clearly defined. However, differences between male and female students on problems, which require familiar solution strategies, were less frequent but tended to favour female students. According to Gallagher's research, female students did better on conventional rather than on unconventional problems and for male students the opposite was true. Female students depended more on conventional strategies generally taught in the classroom, whereas male students tended to use unconventional strategies more than female students. Families generally encourage girls to follow the social rules, to observe them and discourage them from having unconventional or socially unacceptable behaviour (Küçükkaragöz, 1994). This social and family pressure is more on girls when compared with boys. Laboratory studies of conformity to group pressure have showed significantly greater adherence of women to the group standards (Feinberg, 1951, Crutchfield, 1955, 1957; Nakamura, 1955). Janis, et. al. (1959) have reported that in high school, female students are more susceptible to persuasion than male counterparts. If a deduction has been made, girls may have had a more sensing learning style, a practical approach to life in general and may feel more comfortable in a highly structured and well-organized environment which may be the situation in language departments as the classes are generally not crowded.

When we look at language departments, we see that girls prefer language departments more frequently than boys. In this study the number of female students is 653 and the number of male students is 159 in three universities. In the Master of Arts thesis, accomplished by Anna Gorevanova, the number of second year female students was 46 in total in English and American Literature Department at Bilkent University and in Foreign Philology Department at Ferghana State University and the number of male students was 11 in total in both universities. At the beginning of language learning, basic language instruction involves a lot of repetitive drills and memorization of vocabulary and grammar rules which are more suited to sensors and so to girls. So the education the girls have had in their language departments may have reinforced their appreciating sensing style more than their

male counterparts. Tyler (1956) has stated that throughout the high school period of study, females achieve higher scores on verbal sections of intelligence tests and do better in English courses.

Table 4.15 The Relationship Between Visual/Verbal Learning Style and The Students With Regard to Gender

Style	Gender	N	M	MD	SD	t-value	df	Sig
Verbal	0	147	-3.16	-0.5633	2.26	-1.278	175	0.203
	1	30	-2.60		1.84			
Visual	0	506	5.66	-0.4988	3.14	-1.614	633	0.107
	1	129	6.16		3.09			

As it can be shown in table 4.15, T-test analysis showed no statistically significant difference between male and female students with respect to the visual/verbal learning style.

However, in a study conducted by Reter Rosati (1999) on engineering students, female students were found to be more verbal then their male counterparts. He inferred that perhaps this situation indicated female students' having greater facility with written and spoken sentences.

Table 4.16 The Relationship Between Sequential/Global Learning Style and The Students With Regard to Gender

Style	Gender	N	M	MD	SD	t-value	Df	Sig
Global	0	315	-3.15	0.2814	2.45	0.940	396	0.348
	1	83	-3.43		2.31			
Sequential	0	338	3.28	-5.81E-02	2.23	0.200	412	0.842
	1	76	3.34		2.53			

As it can be inferred from table 4.16, T-test analysis revealed no significant difference between male and female students with regard to the sequential /global learning style.

However, in a study done by Reter Rosati, female engineering students were found to be more sequential than their counterparts, but in a 1961 study by Goodenough and Karp and another by Witkin et. al. in 1962, males were relatively more sequential, but social and

interpersonal skills may be higher among women (Tyler, 1965), but all authorities do not accept this conclusion (Maccoby and Jacklin, 1974). In cross-sectional and longitudinal studies which are designed to span the age range from preadolescence (8years) to young adulthood (17 years) no significant age-sex and sequential /global style differences were found (Witkin, Goodenough and Karp, 1967).

4.4.Is there a difference between the learning styles of the students with regard to their ages?

In order to see the relationship between active/reflective, sensing/intuitive, visual/verbal and sequential/global learning styles and the age ranges of the students, One-Way Variation Analysis, means and standard deviations are calculated. Then the T-test was applied to determine whether the differences between the means of students' age ranges are significant or not.

Table 4.17 The Relationship Between Active/Reflective Learning Style and The Students With Regard to Age

Style	Age	n	M	MD	SD	t-value	Df	Sig
Reflective	1	159	-2.81	0.5183	2.22	1.694	248	0.092
	2	91	-3.32		2.49			
Active	1	297	3.72	-0.6765	2.39	-3.189	560	0.002*
	2	265	4.40		2.63			

*p <0.05

1- 17-20 years 2- 21+ years

As can be seen in table 4.17, the T-test analysis has revealed a significant difference between younger and older students with respect to active learning style. The mean score of younger students is 3.72 and the mean score of older students is 4.40 with a mean difference of –0.6765. The level of significance is 0.002, which is smaller than 0.05 and this result shows that older students appreciate active learning methods more than their younger counterparts.

Fardouly (1998) reports that adults learn more successfully when there is experience in learning, that is, they learn more easily by doing activities such as solving problems and participation .

The findings in table 4.17 are in accordance with the findings about class differences in which senior students have been found to be more active than freshmen. When they are fourth year students, they also become older. When the numbers of fourth year students and older students are compared, they are almost the same (355 4th year students and 356 older students).

Active students prefer a lot of activities, a chance to do things with people and seek personal involvement in activities such as team projects and group work. Active learning activities involve dialogues, conversations, dramas and team competitions, all of which enable students to use the language they learn effectively, to be an active participant in the classroom instead of being a passive recipient.

This difference between younger and older and first and fourth year students indicates that older students and seniors' being more active may result from the training they have got in their departments up to the fourth grade.

Table 4.18 The Relationship Between Sensing/Intuitive Learning Style and The Students With Regard to Age

Style	Age	N	M	MD	SD	t-value	Df	Sig
Intuitive	1	82	-2.95	2.138E-02	2.39	0.053	153	0.958
	2	73	-2.97		2.67			
Sensing	1	374	4.48	-0.1654	2.53	-0.778	655	0.445
	2	283	4.64		2.89			

As can be inferred from table 4.18, the T-test analysis has showed no statistically significant difference between younger and older students with regard to the sensing/intuitive learning style. The level of significance is 0.958 for the intuitive learning style and 0.445 for sensing one, both of which are greater than 0.05 ($p < 0.05$) which means that there is no significant difference between younger and older students in being sensing or intuitive.

Table 4.19 The Relationship Between Visual/Verbal Learning Style and The Students With Regard to Age

Style	Age	n	M	MD	SD	t-value	Df	Sig
Verbal	1	126	-2.82	0.8413	1.92	2.328	175	0.047*
	2	51	-3.66		2.70			
Visual	1	330	5.29	0.9752	3.13	-3.958	633	0.000**
	2	305	6.27		3.06			

*p <0.05 ,**p <0.001

As can be observed in table 4.19, the T-test analysis has revealed a significant difference between younger and older students with respect to visual and verbal learning styles.

Younger students gained a mean score of –2.82 and older students gained a mean score of –3.66 with a mean difference of 0.8413 with regard to the verbal learning style and the level of significance is 0.047 which is smaller than 0.05 ($p< 0.05$), and this means that older students appreciate verbal learning methods more than younger students do.

With respect to the visual learning style, the mean score of the younger students is 5.29 and the mean score of the older students is 6.27 with a mean difference of 0.9752 and the level of significance is less than 0.001 which is smaller than 0.05 and such a result reveals a highly significant difference with older students' being more visual than their younger counterparts.

These findings are also in accordance with the previous findings about classes. Senior students are also more visual and verbal than freshman students and their significance levels are almost identical. For students' ages the significance level is 0.047 for the verbal learning style and for classes, it is 0.033. Likewise, for students' ages, the level of significance is 0.000 for the visual learning style and for classes it is again 0.000, both of which are exactly identical and give the same results and the findings support each other.

When they are fourth year students, they also become older and it can be inferred that the training they have gotten so far in the language department causes them to appreciate both verbal and visual learning techniques simultaneously more than younger learners as they need both of them to be proficient language learners and teachers in the future.

Table 4.20 The Relationship Between Sequential/Global Learning Style and The Students With Regard to Age

Style	Age	N	M	MD	SD	t-value	df	Sig
Global	1	212	-3.02	0.3611	2.23	1.608	396	0.112
	2	186	-3.41		2.61			
Sequential	1	244	3.09	-0.4981	2.14	-2.190	412	0.033*
	2	170	3.58		2.44			

*$p < 0.05$

As it can be seen in table 4.20, the T-test analysis has revealed a statistically significant difference between younger and older students with regard to the sequential learning style. With respect to the sequential learning style, the mean score of younger students is 3.09 and the mean score of older students is 3.58 with a mean difference of –0.4981. The level of significance is 0.033 which is smaller than 0.05, and such a result indicates a difference with older students' being more sequential when compared with their younger counterparts.

As the level of significance for classes (0.030) with regard to the sequential learning style is almost the same with the level of significance for age (0.033) with respect to the sequential learning style, it can be said that the two findings support each other and they are coherent and relevant to each other and it can be inferred that the students' training in the language department for three years as explained before affected their learning style causing them to be more sequential when compared with younger students.

Global thinking is used by young children more (Shepp and Burns and McDonough, 1980). When adults are required to answer rapidly, they tend to answer more globally (J.Smith and Kemler Nelson, 1984; Ward et.al.,1986).

4.5.Is there a difference between the learning styles of the students with respect to the types of high schools which they graduated from?

In order to find the relationship between active/reflective, sensing/intuitive, visual/verbal and sequential/global learning styles and types of high schools the students graduated from One-Way Variation Analysis, means and standard deviations are calculated. After that the F-test is applied so as to determine whether the differences between the means of the students who graduated from different types of high schools are significant or not.

Table 4.21 The Relationship Between Active/Reflective Learning Style and High Schools the Students Graduated From

Style	High School	N	M	SD	F	df	Sig
Reflective	1	207	-2.95	2.34	0.510	247	0.601
	2	13	-2.84	1.90			
	3	30	-3.40	2.48			
Active	1	463	4.11	2.56	1.377	559	0.253
	2	43	3.93	2.59			
	3	56	3.53	2.17			

(1) Anatolian or Super High Schools
(2) Private High Schools
(3) State Schools and Others

As can be inferred from table 4.21, the level of significance is 0.601 for the reflective learning style and 0.253 for the active one, both of which are greater than 0.05 ($p>0.05$) and this means that there is no statistically significant difference between the active/reflective learning style and the types of high schools the students graduated from.

Table 4. 22 The Relationship Between Sensing/Intuitive Learning Style and the High Schools the Students Graduated From

Style	High School	n	M	SD	F	df	Sig
Intuitive	1	134	-3.01	2.60	0.236	152	0.790
	2	8	-2.50	1.41			
	3	13	-2.69	2.28.			
Sensing	1	536	4.54	2.67	0.020	654	0.981
	2	48	4.62	2.75			
	3	73	4.53	2.83			

As it can be seen in table 4.22, the level of significance is 0.790 for the intuitive learning style and it is 0. 981 for the sensing learning style and both of them are greater than 0.05 which means that there is no statistically significant difference between the sensing/intuitive learning style and the types of high schools the students graduated from.

Table 4. 23 The Relationship Between Visual/Verbal Learning Style and the High Schools the Students Graduated From

Style	High School	n	M	SD	F	df	Sig
Verbal	1	147	-3.00	2.15	0.492	174	0.612
	2	11	-3.18	2.44			
	3	19	-3.52	2.48			
Visual	1	523	5.71	3.13	0.621	632	0.538
	2	45	5.80	2.87			
	3	67	6.16	3.36			

As it can be inferred from table 4.23 that the level of significance is 0.612 for the verbal and 0.538 for the visual learning style, both of which are greater than 0.05 and this result shows that there is no statistically significant difference between the visual/verbal learning style and the types of high schools the students graduated from.

Table 4.24 The Relationship Between Sequential/Global Learning Style and the High Schools the Students Graduated From

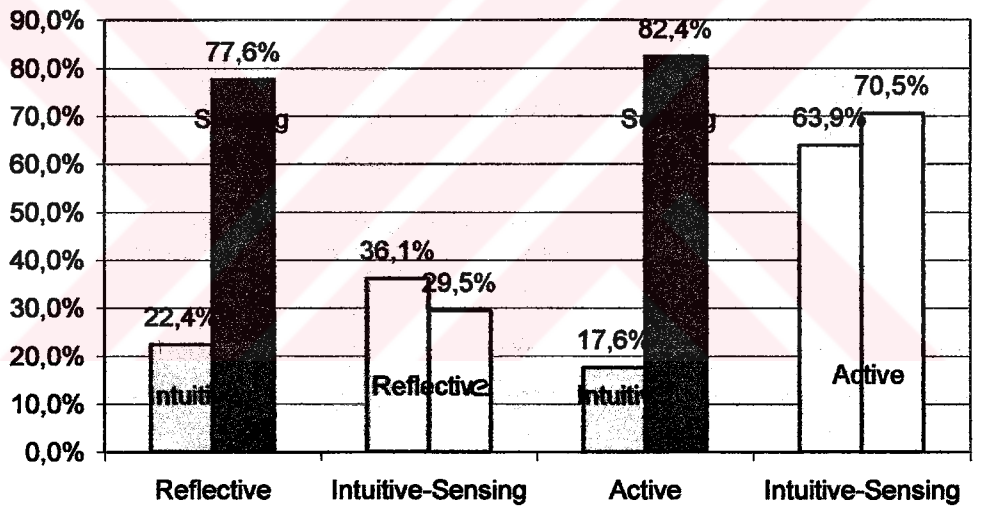
Style	High School	n	M	SD	F	df	Sig
Global	1	322	-3.31	2.45	1.453	395	0.235
	2	31	-2.87	2.24			
	3	45	-2.73	2.31			
Sequential	1	348	3.21	2.32	1.257	411	0.286
	2	25	3.80	2.00			
	3	41	3.63	2.11			

As it can be seen in table 4.24, the level of significance is 0.235 for the global learning style and it is 0.286 for the sequential one and both of them are greater than 0.05 which means that there is no statistically significant difference between the sequential/global learning style and the types of high schools the students graduated from.

4.6.Is there a relationship between different learning styles?

In order to see whether there is a meaningful relationship between different learning styles Fisher's Exact Test was run and the following tables show these relationships.

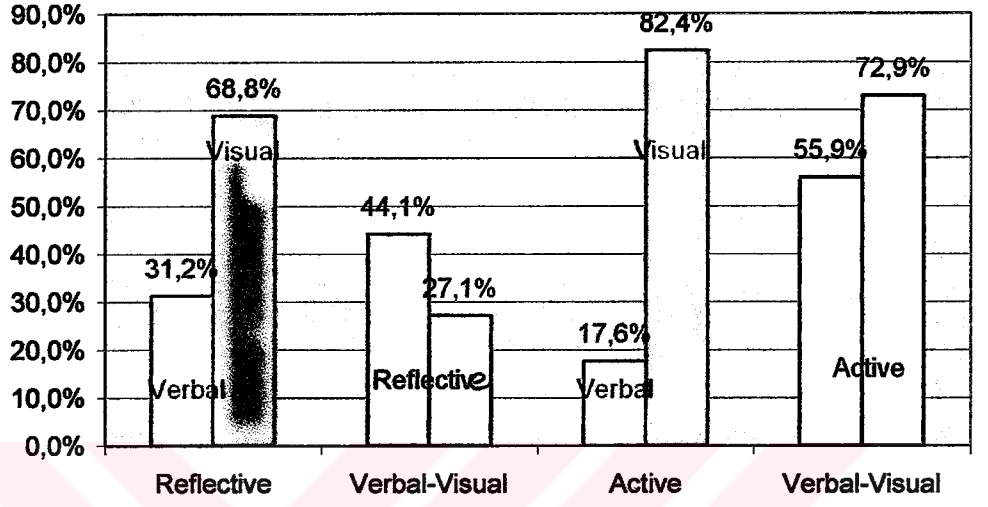
Table 4. 25 The Relationship Between Active/Reflective and Sensing/Intuitive Learning Styles



Exact Sig (2-sided):0.122

According to the Fisher's Exact Test result, the level of significance is 0.122 which is greater than 0.05, and this means that there is not a significantly important relationship between the active /reflective and sensing/intuitive learning styles.

Table 4. 26 The Relationship Between Active /Reflective and Visual/Verbal Learning Styles



Exact Sig(2-sided):*0.000

*p <0.001

According to the Fisher's Exact Test result, the level of significance is less than 0.001 which is smaller than 0.05 ($p<0.05$), and this result shows a highly significant relationship between the active/reflective and visual/verbal learning styles.

When table 4.26 is examined, it can be seen that the rate of reflective students' being visual is higher than the rate of visual students' being reflective, that is, there is a one-sided interaction between the reflective and visual learning styles.

Reflective people like to examine and manipulate information introspectively and understand and retain information best when they think things over, and they are deliberate and cautious in responding. While studying, they need to stop to think about possible questions and to review what they have read. Silence is an important strategy for them, and they should be provided with a private place in the classroom to do their task alone. They should also be given written assignments, and teachers should impose less importance to oral presentation from these students (Mamchur, 1981). Thus pictures, diagrams, films, maps, etc. shown and used in the lessons give them enough time and opportunity to think about the information presented which is very important for reflective students. While looking at these visual stimuli, they can examine and internalize the given information better and most of the

time, silence accompanies these visual stimuli, which is crucial for reflective students to grasp the information presented. Writing summaries, taking short notes and studying in a quiet place are useful for both reflective and visual students. Because of these reasons, visual stimuli are very important for reflective students and this may explain why reflective students are visual at the same time as well.

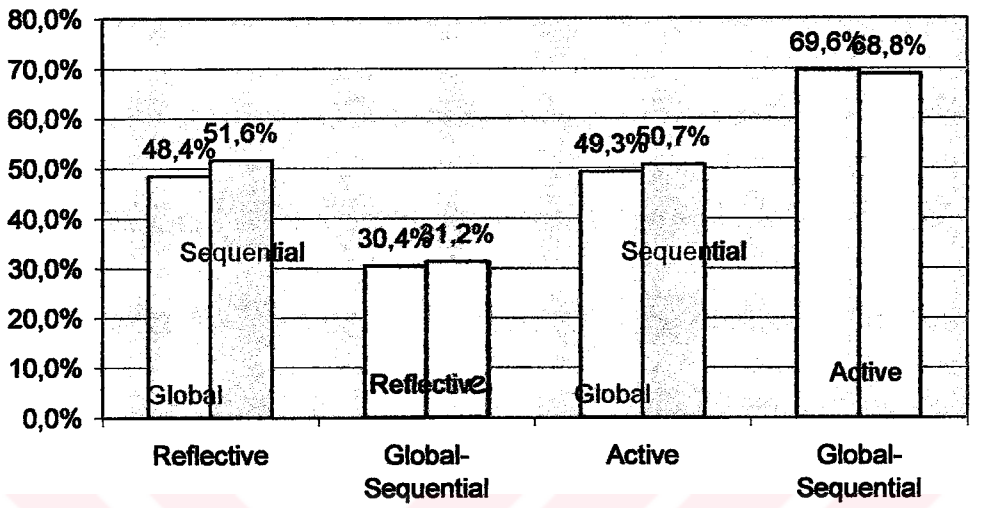
Again when table 4.26 is examined, it can be seen that students possessing the active learning style also have the visual learning style and students with the visual learning style have a preference for active learning as well, that is to say, there is a two-sided interaction between the active and visual learning styles.

People with the active learning style prefer variety and personal involvement in activities. Discussion groups can be formed and they can be encouraged to have oral interaction about serious topics, and various pictures, tables, diagrams and films can give them the chance to have oral interaction and discussion in the classroom. They also need freedom to move and prefer learning situations that enable them to do something physical and not only looking at pictures, charts, diagrams, etc. but also helping their teachers prepare and show them to the class will be very helpful for them as they move and do something physical in the classroom.

Visual students do not simply sit down, listen and watch while using pictures, tables, charts and diagrams, but they also discuss the topic, question, argue and brainstorm, all of which are active participation in the lesson.

These similar properties may have caused active students to have the visual learning style and vice versa.

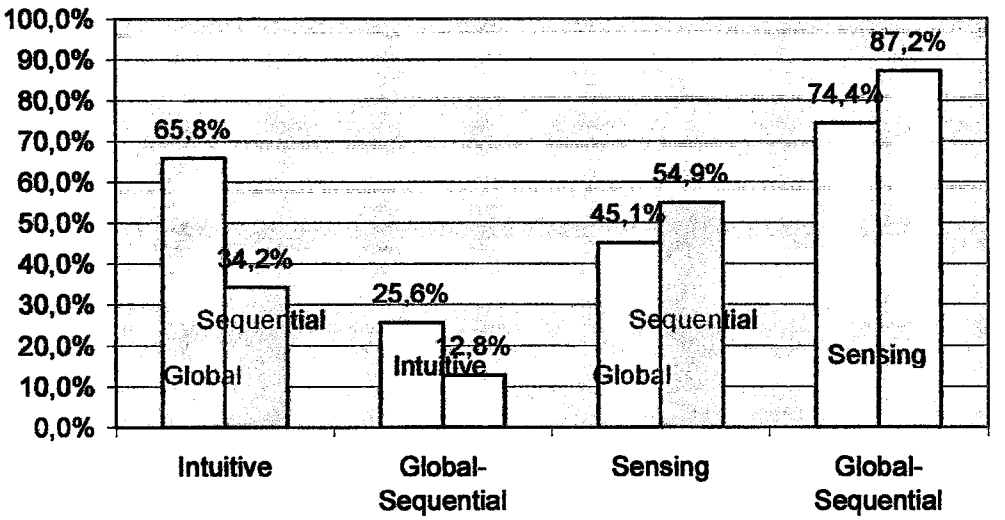
Table 4. 27 The Relationship Between Active/Reflective and Sequential/Global Learning Styles



Exact Sig (2-sided):0.820

As it can be seen in table 4.27, the level of significance is 0.820 which is greater than 0.05 ($p>0.05$) and such a result means that there is no statistically significant relationship between the active /reflective and sequential/global learning styles.

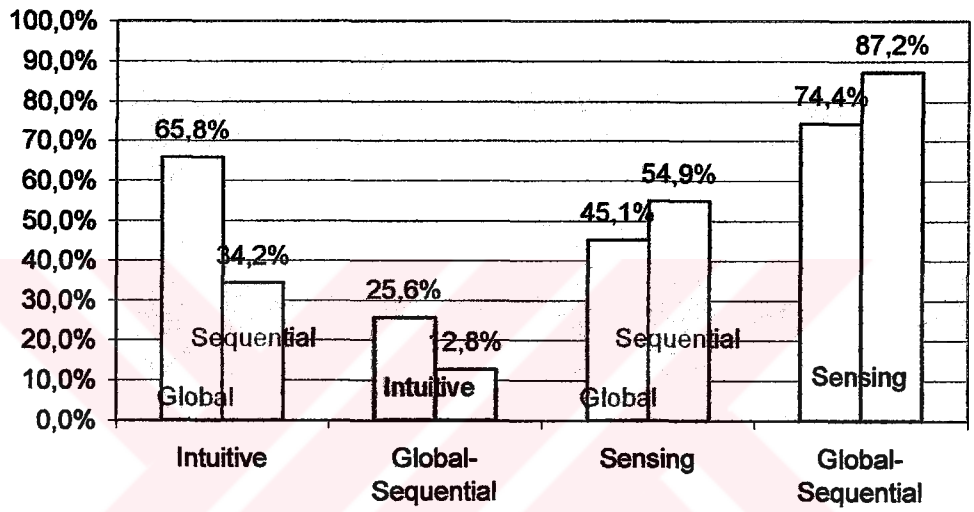
Table 4.28 The Relationship Between Sensing/Intuitive and Visual/Verbal Learning Styles



Exact Sig (2-sided): 0.829

According to the Fisher's Exact Test result, the level of significance is 0.829 which is greater than 0.05 ($p>0.05$) and this means that there is no statistically significant relationship between the sensing/intuitive and visual/verbal learning styles.

Table 4.29 The Relationship Between Sensing/Intuitive and Sequential/Global Learning Styles



Exact Sig (2-sided):*0.000

*p< 0.001

As it can be seen in table 4.29, the level of significance is less than 0.001, which is smaller than 0.05 ($p<0.05$) and such a result indicates a very highly significant interaction between the sensing/intuitive and sequential/global learning styles.

It can be seen from table 4.29 that the rate of intuitive students' being global is higher than the rate of global students' being intuitive which means that there is a one sided interaction between the intuitive and global learning styles.

Learners with the intuitive learning style are imaginative and innovative, prefer variety while studying, can deal with complications and complexities and are bored by too much detail. They enjoy discovering possibilities and relationships, are successful at brainstorming activities, finding new ways of looking at something or new uses of it and are good at grasping systems and inferring meaning from context. Likewise, people with the global learning style look for alternatives and new approaches to problems, like brainstorming activities, can see novel connections between things and ideas, they may not see small parts

or detail and like to deal with problems intuitively. They tend to see things as complex, are successful in uniting different point of views in a wider perspective, can learn better through group work and use holistic strategies such as guessing words from context.

Second, intuitive learners are emphatic with others and good at judging other people's reactions. A classroom setting should have variety, creativity, group work and communicative activities in order for them to learn better. Their interest in people, empathy and desire to have close relations help them to communicate easily. Similarly, people with the global learning style enjoy being with their friends and teachers. They prefer situations, which bring them into contact with other people. They look for physical closeness to people in social interactions and are open in their feelings (Witkin and Goodenough,1977). Due to these similar features learners with the intuitive learning style may possess the global learning style as well

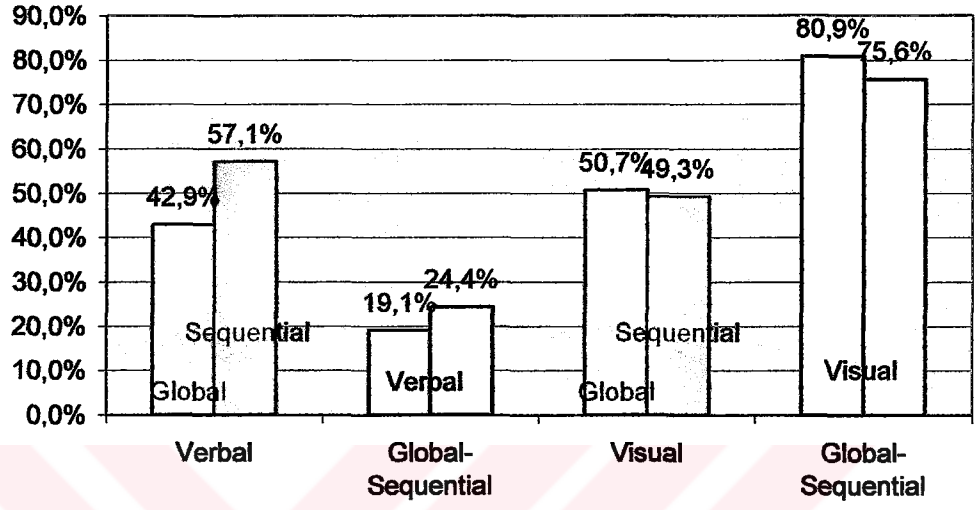
When table 4.29 is examined again, it is seen that students with the sensing learning style are also global and sequential learners and students with the sequential and global learning styles have the sensing learning style as well which means that there is a two-sided interaction between the sensing and sequential/global learning styles.

First of all, sensing learners find practical solutions to problems and are systematic. They prefer well-organized classes with clear goals and enjoy learning details. They like well-defined problems, which can be solved by well-known methods. If there is a lot of theoretical explanation in the classroom, they may not respond to it. Similarly, sequential learners are organized, look at details and facts and have a practical outlook as opposed to theoretical. They prefer a systematic and organized approach to learning.

Secondly, sensors feel more comfortable in highly-structured environments. They try to find specific examples and its connections to real life and their experiences. Likewise, global learners use analogies, relate ideas to everyday experience and they get the meaning well by examples, anecdotes and applying what is said to personal experience. Teacher-structured methods would be more suitable for them and they need pre-structured information.

These similar features may have caused students with the sensing learning style to adopt the sequential and global learning styles at the same time and vice versa.

Table 4.30 The Relationship Between Visual/Verbal and Sequential/Global Learning Styles



Exact Sig (2-sided):0.074

According to the Fisher's Exact Test result, the level of significance is 0.074 which is greater than 0.05($p>0.05$) and this means that there is no statistically significant relationship between the visual/verbal and sequential/global learning styles.

4.7. Is there a relationship between the students' school achievement and their learning styles?

In order to see whether there is a relationship between the students' school achievement and their learning styles Pearson Chi Square and Fisher's Exact Test were run and the results are given in the following tables.

Students must get 55 in order to be successful in Ç.O.M.U., 70 in G.U. and 70 in D.E.U. These grades were taken as the basis for the comparison of the students' grades and success with their learning styles.

Table 4. 31 The Relationship Between Active/Reflective Learning Style and the Freshman Students' Success in the "Writing Skills" Lesson

Freshmen	Writing Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	37.5%	62.5%	0.494
Active	41.5%	58.5%	

Unsuc. : Unsuccessful Suc.: Successful

According to the Fisher's Exact Test result, the level of significance is 0.494, which is greater than 0.05, and this means that there is no statistically significant difference between the active/reflective learning style and the freshman students' success with regard to the Writing Skills lesson. Thus it cannot be said that the students with either active or reflective learning style are more successful in the Writing lesson.

Table 4.32 The Relationship Between Active /Reflective Learning Style and the Freshman Students' Success in the "Spoken Skills" Lesson

Freshmen	Spoken Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	16.7%	83.3%	0.761
Active	15.5%	84.5%	

As it can be seen in table 4.32, the level of significance is 0.761 which is greater than 0.05, and which means that there is no significant difference between the active/reflective learning style and the freshmen's success with regard to the Spoken Skills lesson.

Table 4.33 The Relationship Between Active /Reflective Learning Style and the Freshman Students' Success in the "Reading Skills" Lesson

Freshmen	Reading Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	36.7%	63.3%	0.817
Active	38.5%	61.5%	

As can be seen in table 4.33 the level of significance is 0.817 which is greater than 0.05, and such a result indicates no significant difference between active/reflective learning style and the freshmen's success in the Reading Skills lesson.

Table 4. 34 The Relationship Between Active /Reflective Learning Style and the Freshman Students' Success in the "An Introduction to Education" Lesson

Freshmen	An Introduction to Education		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	10.6%	89.4%	1.000
Active	12.0%	88.0%	

In table 4.34, it is seen that the level of significance is 1.000, which is greater than 0.05, and this shows that there is no significant difference between the active/reflective learning style and the freshmen's success with regard to An Introduction to Education course.

Table 4.35 The Relationship Between Active/Reflective Learning Style and the Freshman Students' Success in the "English Grammar" Lesson

Freshmen	English Grammar		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	23.3%	76.7%	0.794
Active	24.9%	75.1%	

When table 4.35 is examined, it is seen that the level of significance is 0.794, which is greater than 0.05, and this means that there is no difference between the active/reflective learning style and the freshmen's success with respect to the English Grammar lesson.

Table 4.36 The Relationship Between Active/Reflective Learning Style and the Freshman Students' Success in the "Phonetics" Lesson

Freshmen	Fonetics		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	24.4%	75.6%	0.381
Active	30.5%	69.5%	

As it can be inferred from table 4.36 the level of significance is 0.381, which is greater than 0.05 and which shows that there is no difference between the active/reflective learning style and the freshmen's success with respect to the Phonetics lesson.

Table 4. 37 The Relationship Between Active /Reflective Learning Style and the Freshman Students' Success in the " Observation in Schools" Lesson

Freshmen	Observation in Schools		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	____	100%	0.182
Active	3.4%	96.6%	

It can be observed on table 4.37 that the level of significance is 0.182, which is greater than 0.05, and such a result shows that there is no significant difference between the active/reflective learning style and the freshmen's success with regard to the Observation in Schools lesson.

Table 4.38 The Relationship Between Active/Reflective Learning Style and the Senior Students' Success in the "Poetry Analysis and Teaching" Lesson

Seniors	Poetry Analysis and Teaching		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	5.6%	94.4%	1.000
Active	6.1%	93.9%	

When the relationship between senior students' success in the Poetry Analysis and Teaching lesson and the active/reflective learning style is examined in table 4.38, it can be observed that the level of significance is 1.000 which is greater than 0.05, and this result indicates that there is no difference in active or reflective students' success with regard to the Poetry Analysis and Teaching course.

Table 4. 39 The Relationship Between Active /Reflective Learning Style and the Senior Students' Success in the "Materials Development" Lesson

Seniors	Materials Development		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	15.4%	84.6%	1.000
Active	16.0%	84.0%	

When the level of significance is examined which is 1.000 and which is greater than 0.05, it can be inferred that there is no difference between the success of active and reflective seniors with respect to the Materials Development lesson.

Table 4.40 The Relationship Between Active/Reflective Learning Style and the Senior Students' Success in the "Testing and Evaluation" Lesson

Seniors	Testing and Evaluation		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	13.0%	87.0%	1.000
Active	13.8%	86.2%	

When the relationship between the success of the seniors in the Testing and Evaluation course and the active/reflective learning style is examined, it can be stated that the level of significance is 1.000 which is greater than 0.05 and which shows that there is no significant difference between the success of active and reflective seniors with regard to the Testing and Evaluation lesson.

Table 4.41 The Relationship Between Active/Reflective Learning Style and the Senior Students' Success in the "Observation in Schools" Lesson

Seniors	Observation in Schools		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	_____	100.0%	0.579
Active	1.7%	98.3%	

In table 4.41, the level of significance is 0.579, which is greater than 0.05 and this indicates that there is no significant difference between the success of active and reflective seniors in the Observation in Schools lesson.

Table 4.42 The Relationship Between Active /Reflective Learning Style and the Senior Students' Success in the "Textbook Evaluation" Lesson

Seniors	Textbook Evaluation		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	11.1%	88.9%	0.584
Active	14.2%	85.8%	

As it can be seen in table 4.42, the level of significance is 0.584, which is greater than 0.05 and such a result shows that there is no statistically significant difference between the success of the active and reflective seniors with regard to the Textbook Evaluation lesson.

Table 4 43 The Relationship Between Active/Reflective Learning Style and the Senior Students' Success in the "Drama Analysis and Teaching" Lesson

Seniors	Drama Analysis and Teaching		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	14.1%	85.9%	0.712
Active	12.2%	87.8%	

It can be inferred from table 4.43 that there is no difference between the success of active and reflective seniors with regard to the Drama Analysis and Teaching lesson because the level of significance is 0.712 which is greater than 0.05.

Table 4. 44 The Relationship Between Active /Reflective Learning Style and the Senior Students' Success in the "Teaching Experience" Lesson

Seniors	Teaching Experience		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	1.1%	98.9%	0.678
Active	2.6%	97.4%	

The level of significance is 0.678, which is greater than 0.05 and such a result means that there is no difference between the success of active and reflective seniors with respect to the Teaching Experience lesson.

Table 4.45 The Relationship Between Active/Reflective Learning Style and the Senior Students' Success in the "Translation From Turkish to English" Lesson

Seniors	Translation From Turkish to English		Exact Sig(2 sided)
	Unsuc.	Suc.	
Reflective	23.6%	76.4%	0.571
Active	27.0%	73.0%	

As it can be seen in table 4.45, the level of significance is 0.571, which is greater than 0.05, and this means that there is no significant difference between the success of active and reflective seniors with regard to the translation From Turkish to English lesson.

Table 4. 46 The Relationship Between Sensing/Intuitive Learning Style and the Freshman Students' Success in the "Writing Skills" Lesson

Freshmen	Writing Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	40.7%	59.3%	1.000
Sensing	40.0%	60.0%	

Table 4.47 The Relationship Between Sensing/Intuitive Learning Style and the Freshman Students' Success in the "Spoken Skills" Lesson

Freshmen	Spoken Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	18.6%	81.4%	0.558
Sensing	15.3%	84.7%	

Table 4.48 The Relationship Between Sensing/Intuitive Learning Style and the Freshman Students' Success in the "Reading Skills" Lesson

Freshmen	Reading Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	34.5%	65.5%	0.657
Sensing	38.6%	61.4%	

Table 4.49 The Relationship Between Sensing/Intuitive Learning Style and the Freshman Students' Success in the "An Introduction to Education" Lesson

Freshmen	An Introduction to Education		Exact Sig (2 sided)
	Unsuc.	Suc.	
Intuitive	13.8%	86.2%	0.750
Sensing	11.0%	89.0%	

Table 4.50 The Relationship Between Sensing/Intuitive Learning Style and the Freshman Students' Success in the "English Grammar" Lesson

Freshmen	English Grammar		Exact Sig.(2 sided)
	Unsuc.	Suc.	
Intuitive	25.4%	74.6%	0.868
Sensing	24.1%	75.9%	

Table 4. 51 The Relationship Between Sensing/Intuitive Learning Style and the Freshman Students' Success in the "Phonetics" Lesson

Freshmen	Phonetics		Exact Sig (2 sided)
	Unsuc.	Suc.	
Intuitive	29.5%	70.5%	0.856
Sensing	28.2%	71.8%	

Table 4.52 The Relationship Between Sensing/Intuitive Learning Style and the Freshman Students' Success in the "Observation in Schools" Lesson

Freshmen	Observation in Schools		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	____	100.0%	0.594
Sensing	2.8%	97.2%	

When it is looked at the levels of significance in tables 46 to 52, it can be seen that all of them are greater than 0.05 which means that there is no statistically significant difference between the sensing/intuitive learning style and the freshmen' success in all lessons, that is, neither sensing nor intuitive students are more successful than one another.

Table 4.53 The Relationship Between Sensing/Intuitive Learning Style and the Senior Students' Success in the "Poetry Analysis and Teaching" Lesson

Seniors	Poetry Analysis and Teaching		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	4.3%	95.7%	0.774
Sensing	6.4%	93.6%	

Table 4.54 The Relationship Between Sensing/Intuitive Learning Style and the Senior Students' Success in the "Materials Development" Lesson

Seniors	Materials Development		Exact Sig(2 sided9
	Unsuc.	Suc.	
Intuitive	17.1%	82.9%	0.714
Sensing	15.5%	84.5%	

Table 4.55 The Relationship Between Sensing/Intuitive Learning Style and the Senior Students' Success in the "Testing and Evaluation" Lesson

Seniors	Testing and Evaluation		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	17.4%	82.6%	0.323
Sensing	12.5%	87.5%	

Table 4.56 The Relationship Between Sensing/Intuitive Learning Style and the Senior Students' Success in the "Observation in Schools" Lesson

Seniors	Observation in Schools		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	2.9%	97.1%	0.208
Sensing	0.8%	99.2%	

Table 4.57 The Relationship Between Sensing/Intuitive Learning Style and the Senior Students' Success in the "Textbook Evaluation" Lesson

Seniors	Textbook Evaluation		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	10.1%	89.9%	0.431
Sensing	14.2%	85.8%	

Table 4.58 The Relationship Between Sensing/Intuitive Learning Style and the Senior Students' Success in the "Drama Analysis and Teaching" Lesson

Seniors	Drama Analysis and Teaching		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	14.5%	85.5%	0.684
Sensing	12.3%	87.7%	

Table 4.59 The Relationship Between Sensing/Intuitive Learning Style and the Senior Students' Success in the "Teaching Experience" Lesson

Seniors	Teaching Experience		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	1.4%	98.6%	1.000
Sensimg	2.4%	97.6%	

Table 4.60 The Relationship Between Sensing/Intuitive Learning Style and the Senior Students' Success in the "Translation From Turkish to English" Lesson

Seniors	Translation From Turkish to English		Exact Sig(2 sided)
	Unsuc.	Suc.	
Intuitive	20.6%	79.4%	0.278
Sensing	27.5%	72.5%	

As can be seen in tables 53 to 60 the levels of significance in all tables are greater than 0.05, and such a result indicates that there is no significant difference between the sensing/intuitive learning style and the seniors' success in all lessons written above.

Table 4. 61 The Relationship Between Visual/Verbal Learning Style and the Freshman Students' Success in the "Writing Skills" Lesson

Freshmen	Writing Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	42.4%	57.6%	0.622
Visual	39.3%	60.7%	

Table 4.62 The Relationship Between Visual/Verbal Learning Style and the Freshman Students' Success in the "Spoken Skills" Lesson

Freshmen	Spoken Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	17.6%	82.4%	0.619
Visual	15.3%	84.7%	

Table 4.63 The Relationship Between Visual/Verbal Learning Style and the Freshman Students' Success in the "Reading Skills" Lesson

Freshmen	Reading Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	31.5%	68.5%	0.169
Visual	40.2%	59.8%	

Table 4. 64 The Relationship Between Verbal/Visual Learning Style and the Freshman Students' Success in the "An Introduction to Education" Lesson

Freshmen	An Introduction to Education		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	11.5%	88.5%	1.000
Visual	11.5%	88.5%	

Table 4. 65 The Relationship Between Visual/Verbal Learning Style and the Freshman Students' Success in the "English Grammar" Lesson

Freshmen	English Grammar		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	18.5%	81.5%	0.158
Visual	26.4%	73.6%	

Table 4. 66 The Relationship Between Visual/Verbal Learning Style and the Freshman Students' Success in the "Phonetics" Lesson

Freshmen	Phonetics		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	27.3%	72.7%	0.875
Visual	28.9%	71.1%	

Table 4 .67 The Relationship Between Visual/Verbal Learning Style and the Freshman Students' Success in the "Observation in Schools" Lesson

Freshmen	Observation in Schools		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	1.5%	98.5%	1.000
Visual	2.6%	97.4%	

As it can be seen in tables 61 to 67 the levels of significance in all seven tables are greater than 0.05, and this means that there is no statistically significant difference between the visual/verbal learning style and the freshmen's success in all lessons mentioned in the tables.

Table 4.68 The Relationship Between Visual/Verbal Learning Style and the Senior Students' Success in the "Poetry Analysis and Teaching" Lesson

Seniors	Poetry Analysis and Teaching		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	2.4%	97.6%	0.487
Visual	6.5%	93.5%	

Table 4.69 The Relationship Between Visual/Verbal Learning Style and the Senior Students' Success in the "Materials Development" Lesson

Senior	Materials Development		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	13.3%	86.7%	0.826
Visual	16.2%	83.8%	

Table 4.70 The Relationship Between Visual/Verbal Learning Style and the Senior Students' Success in the "Testing and Evaluation" Lesson

Seniors	Testing and Evaluation		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	15.6%	84.4%	0.643
Visual	13.3%	86.7%	

Table 4.71 The Relationship Between Visual/Verbal Learning Style and the Senior Students' Success in the "Teaching Experience" Lesson

Seniors	Teaching Experience		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	____	100.0%	1.000
Visual	1.5%	98.5%	

Table 4.72 The Relationship Between Visual/Verbal Learning Style and the Senior Students' Success in the "Textbook Evaluation" Lesson

Seniors	Textbook Evaluation		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	14.0%	86.0%	0.814
Visual	13.3%	86.75	

Table 4.73The Relationship Between Visual/Verbal Learning Style and the Senior Students' Success in the "Drama Analysis and Teaching" Lesson

Seniors	Drama Analysis and Teaching		Exact Sig (2 sided)
	Unsuc.	Suc.	
Verbal	13.6%	86.4%	0.810
Visual	12.6%	87.4%	

Table 4.74 The Relationship Between Visual/Verbal Learning Style and the Senior Students' Success in the "Observation in Schools" Lesson

Seniors	Observation in Schools		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	____	100.0%	0.600
Visual	2.6%	97.4%	

Table 4.75The Relationship Between Visual/Verbal Learning Style and the Senior Students' Success in the " Translation From Turkish to English" Lesson

Seniors	Translation From Turkish to English		Exact Sig(2 sided)
	Unsuc.	Suc.	
Verbal	25.6%	74.4%	1.000
Visual	26.15	73.9%	

As can be seen in tables 68 to 75, the levels of significance in all eight tables are greater than 0.05 which means that there is no statistically significant difference between the visual/verbal learning style and the senior students' success in the lessons shown in the above eight tables.

Table 4. 76 The Relationship Between Sequential/Global Learning Style and the Freshman Students' Success in the "Writing Skills" Lesson

Freshmen	Writing Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	40.5%	59.5%	0.913
Sequential	39.8%	60.2%	

Table 4.77 The Relationship Between Sequential/Global Learning Style and the Freshman Students' Success in the "Spoken Skills" Lesson

Freshmen	Spoken Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	15.2%	84.8%	0.772
Sequential	16.4%	83.6%	

Table 4.78 The Relationship Between Sequential/Global Learning Style and the Freshman Students' Success in the "Reading Skills" Lesson

Freshmen	Reading Skills		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	38.9%	61.1%	0.741
Sequential	37.1%	62.9%	

Table 4.79 The Relationship Between Sequential/Global Learning Style and the Freshman Students' Success in the "An Introduction to Education" Lesson

Freshmen	An Introduction to Education		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	17.3%	82.7%	0.057
Sequential	7.4%	92.6%	

Table 4. 80 The Relationship Between Sequential/Global Learning Style and the Freshman Students' Success in the "English Grammar" Lesson

Freshmen	English Grammar		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	25.9%	74.1%	0.536
Sequential	23.1%	76.9%	

Table 4.81 The Relationship Between Sequential/Global Learning Style and the Freshman Students' Success in the "Phonetics" Lesson

Freshmen	Phonetics		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	28.0%	72.0%	0.891
Sequential	28.9%	71.1%	

Table 4.82 The Relationship Between Sequential/Global Learning Style and the Freshman Students' Success in the "Observation in Schools" Lesson

Freshmen	Observation in Schools		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	2.5%	97.5%	1.000
Sequential	2.1%	97.9%	

When the tables from 76 to 82 are examined, it can be seen that the levels of significance in all tables are greater than 0.05, and such a result means that there is no statistically significant difference between the sequential/global learning style and the freshman students' success in the lessons mentioned in the tables.

Table 4.83 The Relationship Between Sequential/Global Learning Style and the Senior Students' Success in the "Poetry Analysis and Teaching" Lesson

Seniors	Poetry Analysis and Teaching		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	6.3%	93.7%	0.817
Sequential	5.6%	94.4%	

Table 4.84 The Relationship Between Sequential/Global Learning Style and the Senior Students' Success in the "Materials Development" and Practice Lesson

Seniors	Materials Development		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	14.8%	85.2%	0.646
Sequential	17.1%	82.9%	

Table 4. 85 The Relationship Between Sequential/Global Learning Style and the Senior Students' Success in the "Observation in Schools" Lesson

Seniors	Observation in Schools		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	1.7%	98.3%	0.630
Sequential	0.7%	99.3%	

Table 4 .86 The Relationship Between Sequential/Global Learning Style and the Senior Students' Success in the "Textbook Evaluation" Lesson

Seniors	Textbook Evaluation		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	14.8%	85.2%	0.511
Sequential	11.6%	88.4%	

Table 4.87 The Relationship Between Sequential/Global Learning Style and the Senior Students' Success in the "Drama Analysis and Teaching" Lesson

Seniors	Drama Analysis and Teaching		Exact Sig(2 sided)
	Unsuc.Suc.		
Global	14.7%	85.3%	0.314
Sequential	10.4%	89.6%	

Table 4. 88 The Relationship Between Sequential/Global Learning Style and the Senior Students' Success in the "Translation From Turkish to English" Lesson

Seniors	Translation From Turkish to English n		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	28.3%	71.7%	0.367
Sequential	23.2%	76.8%	

As it can be seen in tables 83 to 88 the levels of significance in all six tables given above are greater than 0.05 which means that there is no difference between the sequential/global learning style and the seniors' success in the six lessons given in the tables.

Table 4.89 The Relationship Between Sequential/Global Learning Style and the Senior Students' Success in the "Testing and Evaluation" Lesson

Seniors	Testing and Evaluation		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	18.1%	81.9%	0.009*
Sequential	8.2%	91.8%	

*p <0.05

When table 4.89 is examined, it can be seen that the level of significance is 0.009, which is smaller than 0.05, and such a result indicates a highly statistically significant relationship between the sequential/global learning style and the seniors' success in the Testing and Evaluation lesson.

It can be inferred from table 4.89 that although the percentage of global students is high, the percentage of successful sequential students is higher than the percentage of successful global counterparts and this means that sequential students are more successful in preparing exams in English.

This may have resulted from sequential students' inborn capacities. Sequential learners learn in a logical and orderly way, in a step by step fashion, whereas global ones jump from one area to another and do not follow a linear way while learning. Sequential learners learn

better when information is given in a logical and sequential order with increasing complexity and prefer learning by parts. Leaver (1986) has also suggested that sequential learners are better at grammatical structure and contrastive analysis; however, global ones are better at learning language intonation and rhythms. In language exams, grammatical points are examined more widely than other parts of language such as, intonation or rhythm.

'Testing and Evaluation' is a course in which students learn how to prepare exam questions for when they become teachers in the future. In a school everything meets the needs of sequential students: curricula are sequential, course books are sequential, exams are generally prepared in a sequential manner, and generally many teachers teach sequentially.

So sequential students use their organized and logical way of thinking and analytical ability to prepare exam questions which is very suited to the present school system and this situation may have led them to be more successful in this lesson when compared to their global counterparts who tend to get information almost randomly in unconnected fragments and understand things in large jumps in a non linear, web-like way and not in an apparent logical order. They may not learn details clearly but they see "the big picture" and all these properties are not consistent with the school system, books and exams. All of them may have caused sequential learners to be more successful than their global counterparts in the Testing and Evaluation lesson.

Table 4.90 The Relationship Between Sequential/Global Learning Style and the Senior Students' Success in the "Teaching Experience" Lesson

Senior	Teaching Experience		Exact Sig(2 sided)
	Unsuc.	Suc.	
Global	4.0%	96.0%	0.018*
Sequential	____	100%	

*p <0.05

As can be seen in the table 4.90, the level of significance is 0.018 which is smaller than 0.05, and this result shows a statistically significant relationship between sequential/global learning style and the seniors' success in the Teaching Experience lesson, with sequential students being more successful than global ones as the sequential students' percentage is higher than the percentage of global ones. Although the percentage of

successful global students is very high, that is 96%, the T-test analysis indicated a significant difference between sequential and global students.

Sequential students enjoy being in the classroom and they have a systematic and organized approach to learning. Sequential students can be seen as the preferred learners in the classroom as their analytical approach to problem solving and academic work seem to match the expectations of schools. Sequential learners, by using their problem solving skills without the intrusion of the outside factors that disrupt individual attention, are more successful in traditional teaching/learning environments.

Generally in the classroom, there is not a global approach in which there are group projects, close work with the teacher or materials related to the ethnic and social background or interests of students. Contrary to the global approach, in schools there is mostly a sequential approach in which there are independent activities, minimal participation of the teacher, charts and diagrams. This approach is surely more suitable for sequential learners. Pask and Scott found that learners who were exposed to learning situations, which were congruent with their learning styles, outperformed those who were mismatched. Cohen (1968) has also explained that a student who does not have the learning style approved by the school system would be automatically in conflict with the school and would be a failure. As global learners' talents do not allow them to meet the demands of formal school teaching, they may not be successful students. Torrance (1960), who is a leading researcher in creativity in schools, stated that schools tend to suppress creativity in order to increase conformity.

Generally, sequential teachers encourage independent student achievement and competition between individual students, whereas global teachers prefer to use personal and conversational techniques while interacting with students. Sequential teachers prefer more formal, impersonal modes of presentation and impose structure. They are also more disciplined and organized, whereas global teachers prefer informal teaching methods like conversations and discussions rather than lecturing and doing exercises. Global teachers prefer to use a looser and less organized structure in the classroom.

Senior students are both students and student-teachers and both as a student-teacher and a student sequential learners have an advantage in the classroom because our school system favours sequential students and sequential teachers' teaching methods. As 'Teaching Experience', which is conducted in secondary and high schools, is a lesson teaching students to simulate being teachers, sequential students are more successful than their global counterparts in this lesson.

PART V

5.CONCLUSION, DISCUSSION AND SUGGESTIONS

5.1. Discussion and Conclusion

This study attempted to investigate the different learning styles of freshman and of senior students at English Language Teaching Departments at the Faculties of Education in D.E.U, G.U. and Ç.O.M.U. and to find out whether these learning styles are inherent and stable characteristics, or they change in the process of learning experiences. Another purpose of this study is to determine whether certain learning styles are particularly important in foreign language learning.

All the data obtained in the research were analyzed by means of statistical techniques such as frequencies, means, Fisher's Exact Test and Pearson Chi Square.

In the study, the only difference between the learning styles of the freshman and senior students and the universities they attended has been found in the sequential/global learning style. It was found that the students in D.E.U. are more global than the students in two other universities included in the research. This result is a very difficult one to explain but a tentative conclusion has been drawn according to Witkin's explanation, which claims that parental, sociocultural and environmental factors affect individual's being sequential or global. The first social environment is our family and if the family give importance to obedience to rules and strict discipline, such families have relatively global children. On the other hand, if the family emphasize separation from parental authority and encourage self-expression, these families have relatively sequential children (Witkin et. al., 1962).

Seder's findings indicate similar results that global children were subjected to coercive child-rearing practices stressing authority and were punished for their aggressive behaviour. A tentative conclusion has been drawn that the mentioned reasons may have caused the students in D.E.U. to be more global. As there were not any questions in the questionnaire about parental, sociocultural and environmental factors affecting students, a certain reason cannot be appointed for this difference between the students in three universities included in the research. Further research is required in order to determine the factors influencing this difference between the students of different universities regarding the sequential/global learning style dimension.

The second research question was about the differences between the learning styles of freshman and senior students. As a result of the analysis of the data, senior students were found to be more active, more visual and verbal and more sequential and global than their freshman counterparts. It can be inferred that the training senior students got for three years

at their departments may have influenced them to be more active and to appreciate active learning methods in learning situations. In Peter Rosati and B.K. Hodge's researches on the first and fourth year engineering students, seniors were found to be more active than freshmen, which support our findings.

A conclusion can be drawn that seniors were both more visual and verbal than freshmen because of their training and lessons they had in the language department because they have to listen to and understand the verbal information given in the lessons through the cassettes and their teachers' speeches, and they also have to get written information from books and lecture notes easily and correctly, and finally they should express their ideas clearly in writing. All of these abilities are necessary for these prospective teachers to be successful.

Similarly, visual learning methods provide students with more input about the new information. When students have visual images in their minds, this will help them to remember the given information. Dale (1969) claims that most people learn and retain more information when it is given visually rather than in written or spoken words. Rossi-Le (1995) found that more proficient and older language learners preferred learning visually. As seniors have become more proficient and older in their three years in their departments, it can be inferred that this situation led them to appreciate and apply visual learning methods.

For seniors' being more global and sequential, it can be concluded that this difference between senior and freshman students is due to the education seniors had received for three years. In order to be successful in language learning they should understand ambiguities, be creative and see and make connections between different ideas while examining novels and short stories in the lessons. Moreover, in the lessons there may have been group work and projects, close work with their teacher and materials with social and ethnic background, all of which may have led the seniors to choose global learning techniques.

At the same time they are more sequential than freshmen, which again can be the result of their education process and particular lessons, such as grammar, because in language learning they should analyze sentences and learn grammatical rules in an order ranging from simple to difficult. Language learning requires analytical ability, namely, they should dissect the words and sentences and put them together again, they should take an element out of its context and use it in a restructured form. These necessities may have led seniors to be more sequential in the process of the learning experience.

In connection with the third research question, it was found that there is a difference between male and female students with regard to the sensing/intuitive learning style. Family

the lessons may have contributed to older learners using active learning methods more in order to be successful in their lessons.

The older students are also more visual and verbal than the younger ones, which is also in accordance with the result found for freshman and senior students in which seniors were found to be more visual and verbal when compared to freshmen. This may result from the education they had in the language departments for three years which also explains the findings about the senior and freshman students because fourth year students are in general older than freshmen. Dunn (1983) states that almost 40% of students learn more effectively when they read or see something. However, Price (1980) claims that most children are not good visual learners until they reach third or fourth grade.

Related to the sequential/global learning style, the older students were found to be more sequential than the younger ones. Again the finding about senior and freshman students supports this finding about the older and the younger students, and this result may have been affected by the training they got in their departments. Global thinking is used more by young children as well(Shepp and Burns and McDonough, 1980).

According to the research findings, no difference has been found between the learning styles of the students and the types of high schools they graduated from.

About the sixth research question which asks if there is a relationship between different learning styles, it was found that there is a one-sided interaction between the reflective and visual learning styles, with reflective students being visual at the same time. Reflective students need silence in order to think about the given information, and less importance should be given to oral presentation from these students (Mamchur, 1981). Visual stimuli, such as pictures, diagrams and charts give them extra time to examine and internalize the information presented better. As most of the time silence accompanies the visual stimuli, reflective students are given the time to absorb the new information. Writing summaries, taking short notes and studying in a silent place are very important for both reflective and visual students, and all these similar features may have influenced reflective students' appreciating visual learning methods as well.

There is a two-sided relationship between the active and visual learning styles. While using visual stimuli like pictures, charts and films, students not only sit down and watch but also discuss the picture and the topic, question, argue and brainstorm, all of which enable students to have active participation in the classroom and add variety to the classroom activities.

A one-sided relationship has been found between the intuitive and global learning styles, with intuitive students' being global at the same time. Intuitive learners enjoy discovering possibilities and relationships, are good at brainstorming activities, grasping systems and finding new ways of looking at something and inferring the meaning from context. Similarly, global learners like to see novel connections between things, brainstorming activities and they may ignore details. Intuitive ones prefer variety, creativity, group work and communicative activities and they have a desire to have close relationships with people. In the same way, global people seek physical closeness and contact with other people (Witkin and Goodenough, 1977). These similar features may have led intuitive learners to possess the global learning style as well.

There is a two-sided interaction between the sensing and sequential/global learning styles. Sensors are practical, systematic and they like well-defined problems in whose solutions they can use well-known methods. Similarly, sequential learners are organized, disciplined and systematic and have a practical outlook.

Sensors also try to find specific examples and their connections to their experiences and real life and they prefer well-organized and structured environments. Likewise, global ones get the meaning by using examples, analogies and anecdotes, they apply what is said to personal experience, and they need pre-structured information. All these similarities in these learning styles' properties may have caused the students to have both styles simultaneously.

Finally in this study, except the relationship between sequential/global learning style and the "Testing and Evaluation" and "Teaching Experience" lessons, in both of which sequential senior students were found to be more successful than their global counterparts, no relationship was found between other learning style dimensions and school achievement. Also in the doctorate thesis of Özgen Osman Demirbaş, for which the freshman students of the Interior Architecture and Design Department at Bilkent University were selected as the subject group, no significant difference was found between the performance scores of students having different learning styles. In a school, everything meets the needs of sequential students: curricula are sequential, lessons are taught sequentially from simple to difficult, course books are designed sequentially with increasing levels of complexity and in a logical order, exams are generally prepared part by part in an orderly manner, and many teachers teach sequentially. As a result, the lesson, through which seniors learn how to prepare exam questions when they become teachers, favours the sequential learning style and sequential students use their organized, logical way and analytical ability to prepare exam

questions, and this situation may have caused sequential students to be more successful in this lesson.

"Teaching Experience" is a lesson conducted in secondary or high schools to enable student-teachers to experience teaching in a class with students. In schools, in language lessons generally, there is no group work or close work with the teacher and materials do not involve ethnic and social information or students' interests. All of the above activities favour the global learning style. However, in language lessons, a sequential approach is generally observed in which there are independent activities, competitions, charts, diagrams, minimal teacher participation and formal teaching of grammatical points which are more suitable for sequential students, and all the above reasons may have caused sequential students to be more successful in this lesson when compared to global ones.

5.2. Pedagogical Implications

In the light of the present study, many teachers can understand the importance of individual differences, especially the learning styles of students, and they may employ various techniques and methods to give information and they may expand the number of ways and activities in which students can learn more easily. Teachers can vary teaching activities and assignments so that certain learning styles are not disadvantaged all the time. Especially young and inexperienced teachers can use the results obtained to learn that students bring different personal abilities, capabilities and learning styles to each classroom setting although experienced and attentive teachers are aware of this fact. Researchers such as Anthony Gregory (1982), David Kolb (1987) and McNamara (1987) found that when instructional methods match students' learning style preference, student achievement is significantly enhanced and increased.

This study may also contribute to language teachers' understanding of the different learning styles of students and help teachers to match these different learning styles with appropriate learning strategies and tasks to make their students' learning easier and help students to identify and assess their own learning styles. Teachers can train them to capitalize on their strengths and develop their weaker parts. For example, if a student has difficulty with spoken instructions, he can follow written instructions. As a result, the student can recognize that the visual system works better for certain tasks than does the verbal system. So, the student can develop strategies which fit into his/her own learning style.

Moreover, if teachers learn their students' learning styles by observing them, by asking some questions to students and by giving questionnaires, such knowledge can help them

avoid teaching only by using their dominant and preferred teaching style. For students this knowledge can help them recognize their preferred learning style and assist them in becoming aware of more effective strategies in order to learn more effectively in learning environments in which their dominant learning style is not used. It is crucial for both students and teachers to understand that students have unique ways to learn, perceive, process and communicate the presented information, but it is wrong to believe that learning styles are a static phenomenon. Teachers and educators must not view the scores on different learning style preference tests as being final and unchangeable. In fact, a learning style is not an enduring, unchangeable trait (Davidmon, 1981). The students' learning and learning styles are always changing and adapting to different teaching and learning environments. In general, the majority of teachers and students are not extreme in their styles but the dangers of insisting on one or the other mode of learning and teaching should be recognized.

5.3. Some Suggestions About Teaching Techniques In Foreign Language Education For All Learning Styles

1-Teachers should motivate the process of learning and make a connection between what has been learned and will be learned and between courses and students' personal experience (global, sensors).

2-Teachers should emphasize both fundamental understanding of grammatical structures (intuitive, reflective) and the practical application of it such as using them in example sentences true to real life (sensing, active).

3-Teachers can use pictures, graphs, films before, during and after the presentation of verbal materials (sensing, visual).

4-Teachers can use computer-assisted teaching (sensing, active).

5-Teachers should not lecture or write every minute of class time. They should give short breaks for students to think about what they have learned (reflective).

6-Small group brainstorming activities on any subject in the lesson are very useful to allow students to do something actively (active).

7-Teachers should give exercises and drills to test the material taught (sensing, active, sequential), and they should also ask open-ended real questions (intuitive, reflective, global).

8-Teachers should assign group homework assignments as active learners learn best when they interact with their peer groups.

9-Teachers should appreciate creative answers even if they are wrong (intuitive, global).

10-Teachers should give information about learning styles. When students learn about them, they are reassured that their difficulties at school are not the result of their personal inadequacies (Felder and Silverman, 1998).

However, it is very important to emphasize that learning styles are not unchangeable characteristics, but they can be adapted to various learning and teaching situations, and different learning strategies congruent with each learning style can be learned by conscious effort and can be applied in different learning situations.

As a result, this study is supposed to shed light on the further research related to the learning styles of students and teaching styles of teachers in the field of foreign language learning.

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APPENDICES

ÖĞRENME STİLLERİNİ BELİRLEME ANKETİ

HAZIRLAYANLAR:Barbara A. Soloman, Richard M. Felder

ÇEVİREN : Özlem Köprülü

AÇIKLAMA:Her soruya cevabınızı "a"veya"b" seçeneğini işaretleyerek belirtiniz.Lütfen her soruya sadece bir cevap veriniz .Eğer her iki seçenek de size uygun geliyorsa, size en yakın gelenini işaretleyiniz.

1-Herhangi bir şeyi

a)onu kullanarak veya deneyerek

b)onun hakkında dikkatlice düşünerek

daha iyi anlarım.

2-Daha çok

a)gerçekçi

b)yenilik getirici

olarak görülmeyi tercih ederim.

3-Dün ne yaptığımı düşündüğüm zaman,büyük olasılıkla zihnimde

a)bir resim

b)sözcükler

oluşur.

4-a)Bir konunun ayrıntılarını anlamaya eğilimliyimdir,ama onu global olarak çok net anlayamayabilirim.

b)Bir konuyu global olarak anlamaya eğilimliyimdir,ama ayrıntılarını çok net anlayamayabilirim.

5-Yeni birşey öğrenirken

a)onun hakkında konuşmak

b)onun hakkında düşünmek

bana yardıncı olur.

6-Eğer öğretmen olsam

a)gerçekler ve gerçek yaşamla ilgili

b)düşünceler ve varsayımlarla ilgili

konularda ders vermeyi tercih ederim.

7-Yeni bilgiyi

a)resimler,şemalar,grafikler ve haritalarla

b)yazılı veya sözlü açıklamalarla

öğrenmeyi tercih edrim.

8-Bir konunun

a)bütün parçalarını anladım mı onun bütününü anlarım.

b)bütününü anladım mı parçaların onu nasıl oluşturduğunu anlarım.

9-Zor bir konuda grup çalışması yaparken,olasılıkla

a)hemen çalışmaya katılır ve fikirlerimle katkıda bulunurum.

b)arkama yaslanır ve dinlerim.

10-a)Olguları

b)Kavramları

öğrenmek benim için daha kolaydır.

11-Resimler ve şemalarla dolu bir kitapta,olasılıkla

a)resimleri ve şemaları hızlı ve dikkatli bir şekilde incelerim.

b)yazılı metin üzerinde yoğunlaşırım.

12-Matematik problemleri çözerken genellikle

a)adım adım ilerlerim.

b)çözümü görürüm ama o çözüme vardıracak aşamalara ulaşmak için biraz uğraşırım.

13-Genellikle

a)sınıfdaki öğrencilerin bir çoğunu tanırım.

b)sınıftaki öğrencilerin pek çoğunu tanımam.

14-Kurgusal olmayan metinleri okurken bana

a)yeni gerçekleri öğreten veye bir şeyin nasıl yapılacağını açıklayanları

b)düşündürücü konular içerenleri

tercih ederim.

15-Bir konuyu

a)tahtaya değişik şemeler çizerek

b)enine boyuna açıklamalar yaparak

anlatan öğretmenleri severim.

16-Bir hikaye ya da romanı çözümlerken

a)olayları düşünür ve temaları anlamak için onları bir araya getirmeye çalışırım.

b)okumayı bitirdiğimde sadece temaların neler olduğunu bilirim ve daha sonra bunları açıklayan olayları bulmak için geri dönmek zorunda kalırım.

17-Ödev olarak verilen bir problemi çözmeye başladığımda ,olasılıkla

a)hemen çözümü bulmaya çalışırım.

b)ilk önce soruyu iyice anlamaya çalışırım.

18-a)Kesin olan şeyleri

b)Varsayımları

tercih ederim.

19-a)Gördüğümü

b)Duyduğumu

en iyi şekilde hatırlarım.

20-Benim için öğretmenin konuyu

a)bölüm bölüm vermesi

b)bütünlüğü içinde verip onu diğer konularla ilişkilendirmesi

daha önemlidir.

21-a)Grupla

b)Tek başıma

çalışmayı tercih ederim.

22-Ben olasılıkla

a)işimin ayrıntıları konusunda dikkatli

b)işimi nasıl yapacağım konusunda yaratıcı

biri olarak tanınırım.

23-Yeni bir yere gitmek konusunda bilgi edinmek istediğimde

a)haritayı

b)yazılı açıklamayı

tercih ederim.

24-a)Oldukça düzenli bir öğrenme tarzım vardır.Eğer çok çalışırsam,bir konuyu kavrarım.

b)Düzensiz olarak parça parça öğrenirim.İlk başta kafam tamamen karışır, ama daha sonra o konu bir anda açık hale gelir.

25-a)Bir şeyi kullanıp denemeyi

b)Bir şeyi nasıl yapacağım hakkında düşünmeyi tercih ederim.

26-Zevk için bir şeyler okurken,söylemek istediklerini

a)açık seçik

b)yaratıcı ve ilginç yollarla

anlatan yazarları severim.

27-Sınıfta bir şema ya da şekil gördüğümde ,olasılıkla

a)şema ya da şekli

b)öğretmenin onun hakkında söylediklerini

hatırlarım.

28-Herhangi bir bilgiyi edinirken,olasılıkla

a)ayrıntılar üzerinde dururum ve bütünü kaçırırım.

b)ayrıntılara inmeden önce konunun bütününü anlamaya çalışırım.

29-a)Yaptığım şeyleri

b)Hakkında çok düşündüğüm şeyleri

daha kolay hatırlarım.

30-Bir görevi yerine getirmek zorunda olduğum zaman

a)onu yapmanın bir tek yolunu iyice öğrenirim.

b)onu yapacak değişik yollar ararım.

31-Birisi bana verileri gösterirken

a)şema ve grafikleri

b)sonuçları özetleyen metinleri

tercih ederim.

32-Ödev yazarken,olasılıkla

a)başlangıcını düşünüp yazarım ve sonraki bölümlere geçerim.

b)farklı bölümlerini düşünüp yazarım ve sonra onları sıraya koyarım.

33-Bir proje üzerinde grup çalışması yaparken,ilk önce

a)herkesin düşüncelerini ifade ettiği "grup beyin fırtınası" yöntemini kullanırım.

b)Önce kişiler olarak aklımıza gelen düşünceleri toparlayıp daha sonra grup içinde bunları karşılaştırırım.

34-Benim için bir kimseyi

a)duyarlı

b)yaratıcı

olarak nitelendirilmek daha önemlidir.

35-Bir partide insanlarla karşılaştığımda,olasılıkla

a)nasıl göründüklerini

b)kendileri hakkında söylediklerini

hatırlarım.

36-Yeni bir konuyu öğrenirken

a)o konuya odaklanıp onun hakkında öğrenebileceğim kadar çok şey öğrenmeyi

b)o konuyla diğer ilgili konular arasında bağlantı kurmayı

tercih ederim.

37-Olasılıkla

a)dışadönük

b)içedönük

birisi olarak görülürüm.

38-a)Somut konuları (gerçekler,veriler)

b)Soyut konuları(düşünceler,varsayımlar)

öne çıkaran dersleri tercih ederim.

39-Eğlence için

a)TV seyretmeyi

b)kitap okumayı

tercih ederim.

40-Bazı öğretmenler derslerine o gün işleyecekleri konunun ana çizgileri ile başlarlar.Bu yöntem benim için

a)biraz yararlıdır.

b)çok yararlıdır.

41-Grup ödevi hazırlayıp grup notu alma düşüncesi

a)bana hitap eder.

b)bana hitap etmez.

42-Uzun hesaplamalar yaparken

a)bütün aşamaları gözden geçirip işimi dikkatlice kontrol etmeye eğilimliyimdir.

b)yaptığım işi kontrol etmeyi yorucu bulurum ve bunun için kendimi zorlamam gerekir.

43-Şimdiye kadar bulunduğum yerleri zihnimde

a)kolayca ve oldukça net bir şekilde

b)zorlukla ve ayrıntılara inmeden

canlandırmaya eğilimliyimdir.

44-Bir grup içinde problem çözerken

a)çözüm sürecindeki basamakları düşünmeye

b)çözümün olası sonuçlarını ya da uygulamalarını geniş bir yelpazede düşünmeye eğilimliyimdir.

BİREYSEL DURUM FORMU

ADI/ SOYADI:

1.SINIF ( )

4.SINIF ( )

CİNSİYETİ :

KIZ ( )

ERKEK ( )

YAŞ :

MEZUN OLDUĞUNUZ OKUL :

( ) ANADOLU VEYA SÜPER LİSE

( ) ÖZEL OKUL

( ) NORMAL LİSE VE DİĞERLERİ

ACT/REF			SEN/INT			VIS/VRB			SEQ/GLO		
Q	a	b	Q	a	b	Q	a	b	Q	a	b
1			2			3			4		
5			6			7			8		
9			10			11			12		
13			14			15			16		
17			18			19			20		
21			22			23			24		
25			26			27			28		
29			30			31			32		
33			34			35			36		
37			38			39			40		
41			42			43			44		
Total (sum X's in each column)											
ACT/REF			SEN/INT			VIS/VRB			SEQ/GLO		
	a	b		a	b		a	b		a	b
(Larger - Smaller) + Letter of Larger (see below*)											

INDEX OF LEARNING STYLES*

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IRECTIONS

ircle "a" or "b" to indicate your answer to every question. Please choose only one answer for each iestion.

both "a" and "b" seem to apply to you, choose the one that applies more frequently.

1. I understand something better after I
   (a) try it out.
   (b) think it through.
2. I would rather be considered
   (a) realistic.
   (b) innovative.
3. When I think about what I did yesterday, I am most likely to get
   (a) a picture.
   (b) words.
4. I tend to
   (a) understand details of a subject but may be fuzzy about its overall structure.
   (b) understand the overall structure but may be fuzzy about details.
5. When I am learning something new, it helps me to
   (a) talk about it.
   (b) think about it.
6. If I were a teacher, I would rather teach a course
   (a) that deals with facts and real life situations.
   (b) that deals with ideas and theories.
7. I prefer to get new information in
   (a) pictures, diagrams, graphs, or maps.
   (b) written directions or verbal information.
8. Once I understand
   (a) all the parts, I understand the whole thing.
   (b) the whole thing, I see how the parts fit.
9. In a study group working on difficult material, I am more likely to
   (a) jump in and contribute ideas.
   (b) sit back and listen.
10. I find it easier
    (a) to learn facts.
    (b) to learn concepts.
11. In a book with lots of pictures and charts, I am likely to
    (a) look over the pictures and charts carefully.
    (b) focus on the written text.
12. When I solve math problems
    (a) I usually work my way to the solutions one step at a time.

(b) I often just see the solutions but then have to struggle to figure out the steps to get to them.

3. In classes I have taken
   (a) I have usually gotten to know many of the students.
   (b) I have rarely gotten to know many of the students.
4. In reading nonfiction, I prefer
   (a) something that teaches me new facts or tells me how to do something.
   (b) something that gives me new ideas to think about.
5. I like teachers
   (a) who put a lot of diagrams on the board.
   (b) who spend a lot of time explaining.
6. When I'm analyzing a story or a novel
   (a) I think of the incidents and try to put them together to figure out the themes.
   (b) I just know what the themes are when I finish reading and then I have to go back and find the incidents that demonstrate them.
7. When I start a homework problem, I am more likely to
   (a) start working on the solution immediately.
   (b) try to fully understand the problem first.
8. I prefer the idea of
   (a) certainty.
   (b) theory.
9. I remember best
   (a) what I see.
   (b) what I hear.
0. It is more important to me that an instructor
   (a) lay out the material in clear sequential steps.
   (b) give me an overall picture and relate the material to other subjects.
1. I prefer to study
   (a) in a study group.
   (b) alone.
2. I am more likely to be considered
   (a) careful about the details of my work.
   (b) creative about how to do my work.
3. When I get directions to a new place, I prefer
   (a) a map.
   (b) written instructions.
4. I learn
   (a) at a fairly regular pace. If I study hard, I'll "get it."
   (b) in fits and starts. I'll be totally confused and then suddenly it all "clicks."
5. I would rather first
   (a) try things out.
   (b) think about how I'm going to do it.
6. When I am reading for enjoyment, I like writers to
   (a) clearly say what they mean.
   (b) say things in creative, interesting ways.
7. When I see a diagram or sketch in class, I am most likely to remember
   (a) the picture.
   (b) what the instructor said about it.
8. When considering a body of information, I am more likely to
   (a) focus on details and miss the big picture.
   (b) try to understand the big picture before getting into the details.
9. I more easily remember
   (a) something I have done.
   (b) something I have thought a lot about.
0. When I have to perform a task, I prefer to
   (a) master one way of doing it.

(b) come up with new ways of doing it.

31. When someone is showing me data, I prefer
    (a) charts or graphs.
    (b) text summarizing the results.
32. When writing a paper, I am more likely to
    (a) work on (think about or write) the beginning of the paper and progress forward.
    (b) work on (think about or write) different parts of the paper and then order them.
33. When I have to work on a group project, I first want to
    (a) have "group brainstorming" where everyone contributes ideas.
    (b) brainstorm individually and then come together as a group to compare ideas.
34. I consider it higher praise to call someone
    (a) sensible.
    (b) imaginative.
35. When I meet people at a party, I am more likely to remember
    (a) what they looked like.
    (b) what they said about themselves.
36. When I am learning a new subject, I prefer to
    (a) stay focused on that subject, learning as much about it as I can.
    (b) try to make connections between that subject and related subjects.
37. I am more likely to be considered
    (a) outgoing.
    (b) reserved.
38. I prefer courses that emphasize
    (a) concrete material (facts, dat(a).
    (b) abstract material (concepts, theories).
39. For entertainment, I would rather
    (a) watch television.
    (b) read a book.
40. Some teachers start their lectures with an outline of what they will cover. Such outlines are
    (a) somewhat helpful to me.
    (b) very helpful to me.
41. The idea of doing homework in groups, with one grade for the entire group,
    (a) appeals to me.
    (b) does not appeal to me.
42. When I am doing long calculations,
    (a) I tend to repeat all my steps and check my work carefully.
    (b) I find checking my work tiresome and have to force myself to do it.
43. I tend to picture places I have been
    (a) easily and fairly accurately.
    (b) with difficulty and without much detail.
44. When solving problems in a group, I would be more likely to
    (a) think of the steps in the solution process.
    (b) think of possible consequences or applications of the solution in a wide range of areas.