BAŞKENT UNIVERSITY
INSTITUTE OF EDUCATIONAL SCIENCES
DEPARTMENT OF FOREIGN LANGUAGES
MASTER IN ENGLISH LANGUAGE TEACHING

THE IMPACT OF MULTIPLE INTELLIGENCE TENDENCIES AND LEARNING STYLES ON THE ACADEMIC ACHIEVEMENT OF ENGLISH LANGUAGE TEACHING STUDENTS AT UNIVERSITY

MASTER THESIS

PREPARED BY

ARDA KOÇ

ANKARA - 2020

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ASST. PROF. DR. SENEM ÜSTÜN KAYA

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BAŞKENT ÜNİVERSİTESİ
EĞİTİM BİLİMLERİ ENSTİTÜSÜ

Yabancı Diller Öğretimi Anabilim Dalı İngiliz Dili Öğretimi Tezli Yüksek Lisans Programı çerçevesinde Arda KOÇ tarafından hazırlanan bu çalışma, aşağıdaki jüri tarafından Yüksek Lisans Tezi olarak kabul edilmiştir.

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BAŞKENT ÜNİVERSİTESİ
EĞİTİM BİLİMLERİ ENSTİTÜSÜ

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Yukarıda başlığı belirtilen Yüksek Lisans/Doktora tez çalışmamın; Giriş, Ana Bölümler ve Sonuç Bölümünden oluşan, toplam 87 sayfalık kısmına ilişkin, 23 / 01 / 2020 tarihinde şahsım/tez danışmanım tarafından "Turnitin" adlı intihal tespit programından aşağıda belirtilen filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı % 14'dür. Uygulanan filtrelemeler:

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"Başkent Üniversitesi Enstitüleri Tez Çalışması Orijinallik Raporu Alınması ve Kullanılması Usul ve Esaslarını" inceledim ve bu uygulama esaslarında belirtilen azami benzerlik oranlarına tez çalışmamın herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Öğrenci İmzası:.....

ONAY

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Dr. Öğr. Üyesi Senem ÜSTÜN KAYA

İmza:

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To my father and mother who devoted their lives to science…

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Arda KOÇ

ABSTRACT

Arda KOÇ

The Impact of Multiple Intelligence Tendencies and Learning Styles on the Academic Achievement of English Language Teaching Students at University

Başkent University Institute of Educational Sciences Department of Foreign Languages Master in English Language Teaching
2020

Learning is important and differences are valuable. Today's understanding of education is now aware of this value of difference and in the design process of education, these differences are taken into consideration with great care. The theories such as Learning Styles and Multiple Intelligences which have been emerged from such a perceptive have been widely used in learning environments in recent years. Experiential Learning Theory" firstly dealt by Kolb in 1970's. After by Grasha and Reichmann the learning styles which was handled with a different typology was also widely accepted and adopted as multiple intelligences theory. As a result of these new developments and paradigms, it is inevitable that learning and teaching environments might be also become indispensable to the changes. Knowing the multiple intelligence theory and learning styles of the stakeholders gained importance in terms of planning and evaluating instruction all processes. Considering its importance, this research aims to discuss a problem of the relationship between academic success and students' multiple intelligence tendencies, and their learning styles. So as to reach the answers to the problems, "Learning Style Scale" by Grasha and Reichmann and "Multiple Intelligence Scale" by McClellan-Conti were used. The study was conducted in two universities, one a vocational and one a public university. 257 students (183 female and 74 male), who were studying English language teaching, participated in the study. Data were analysed with SPSS-24 package program. As a result of this analysis, it was determined that the normal distribution was given and the results were reached by using parametric methods. In the research, It was seen that the distributions of cooperative learning and competitive learning styles of the students, who are studying English language teaching, were significantly higher than the other learning styles. Additionally, it is concluded that the students, who are studying English language teaching, have a higher tendency for existential intelligence. While there is a positive relationship between existential intelligence tendency and academic achievement, three learning styles that increase academic achievement in

terms of learning style, are independent, collaborative and participant styles. This research aims to explain fourteen sub-problems in terms of gender, age, class and type of university

Key Words: Grasha-Reichmann Learning Style Scale, McClellan- Conti Multiple Intelligence Scale, English Language Teaching, Academic Achievement

ÖZET

Arda KOÇ

Üniversitede İngilizce Dil Öğretimi Gören Öğrencilerin Çoklu Zekâ Yönelimleri ve Öğrenme Stillerinin Akademik Başarılarına Etkisi

Başkent Üniversitesi Eğitim Bilimleri Enstitüsü İngiliz Dili Öğretimi Tezli Yüksek Lisans Programı
2020

Öğrenme önemli ve farklılıklar değerlidir. Günümüz eğitim anlayışı bu önem ve değeri dikkate alarak öğrenme tasarımlarında bu farklılıklara özen göstermektedir, Böyle bir anlayıştan ortaya çıkan "Öğrenme Stilleri" ve "Çoklu Zeka" gibi kuramlar son yıllarda öğrenme ortamlarında geniş yer bulmuştur. Önce Kolb tarafından 1970'li yıllarda "Yaşantıya Dayalı Öğrenme Modeli" olarak ve sonrasında Grasha ve Riechmann tarafından daha farklı bir tipolojiyle ele alınan öğrenme stilleri kuramı da tıpkı çoklu zekâ kuramı gibi büyük kabul görmüş ve benimsenmiştir. Bu yeni gelişmeler ve oluşan paradigmalar sonucunda öğrenme ve öğretme ortamlarının da aynı değişikliklere uygun hale getirilmesi vazgeçilmez olmuştur. Her bir farklı disiplini oluşturan paydaşların çoklu zekâ yönelimlerini ve öğrenme stillerini bilmek öğretimin planlanması ve değerlendirilmesi açısından önem kazanmıştır. Bu çalışma; bu önemi dikkate alarak, üniversitede İngilizce dil öğretimi gören öğrencilerin çoklu zekâ yönelimlerini, öğrenme stillerini belirlemeyi ve bunlarla akademik başarıları arasında nasıl bir ilişki olduğunu ortaya koymayı bir problem olarak ele almaktadır. Problemin cevabına ulaşmak için Grasha-Reichman "Öğrenme Stili Ölçeği' ve McClellan-Conti "Çoklu Zeka Ölçeği" kullanılmıştır. Çalışma biri vakıf bir devlet olmak üzere iki üniversitede yürütülmüştür. Araştırmaya İngiliz Dili Eğitim programında öğrenim görmekte olan 183' ü kız 74' ü erkek olmak üzere 257 öğrenci katılmıştır. Veriler SPSS-24 paket programı ile analiz edilmiştir. Bu analiz sonucunda verilen normal dağılım gösterdiği tespit edildiğinden sonuçlara parametrik yöntemler kullanılarak ulaşılmıştır. Araştırmada İngilizce dil öğretimi gören öğrencilerin işbirlikçi ve rekabetçi öğrenme stillerine ait dağılımların diğer öğrenme stillerinden anlamlı derecede daha yüksek olduğu görülmüştür. Ayrıca, İngilizce dil öğretimi gören öğrencilerin çoklu zeka alanlarından "varoluşçu zeka" alanına yönelimlerinin daha yüksek ve bu zeka yönelimine olduğu sonucuna ulaşılmıştır. Araştırmada varoluşçu zeka yönelimi ile akademik başarı arasında pozitif bir ilişki bulunurken, Akademik başarıyı öğrenme stili açısından artıran üç öğrenme stili; bağımsız, paylaşımcı ve çekingen öğrenme stilleri olarak tespit edilmiştir. Araştırma konuya ayrıca;

cinsiyet, yaş, sınıf, öğrenim görülen okul türü gibi 14 alt problem ile açıklama getirmeye çalışmıştır.

Anahtar Kelimeler: Grasha-Reichman "Öğrenme Stili Ölçeği', McClellan-Conti "Çoklu Zeka Ölçeği", İngiliz Dili Eğitimi, Akademik Başarı.

PREFACE

The theory of multiple intelligences, which provided a new approach to education, was developed by Howard Gardner from Harvard University in 1983 and following that it has found itself welcomed by a variety of areas in education. Using "multiple intelligences" in education aims to build a healthy teacher-learner communication and to realize the acquisition in accordance with the determined tendencies. The main objective of determining these tendencies is to provide the proper approach for teachers to the student, choosing lesson materials and tools, and the methods to be used in the classroom setting. To develop facilitating activities for the said lesson to be understood thoroughly, it is important for both the teacher and the students that the teachers are informed about multiple intelligences beforehand. Whether it is a foreign language class or mathematics, it is a well-known fact that students enjoy greatly being able to learn by touching and feeling the learning materials used during the lesson. Therefore, the students have the opportunity to integrate their "bodily-kinaesthetic" intelligence with "linguistic" and "visual-spatial" intelligences. To administer assignments, projects and homework that would lead children to do research, to promote team work, or activities such as playing games, drawing pictures and singing will help students develop their intelligences. Besides, it has been shown via studies that advanced level mental abilities such as problem solving, critical thinking and creativity are directly affiliated with multiple intelligences tendencies. To raise generations who hold these abilities constitutes the main aim of 21st century education.

Another theory that has found itself a sound place in education is the theory of "Learning Styles" where the learning styles of the individual are determined, and in this context, "Experiential Learning Theory" by David A. Kolb has a profound place. According to Kolb, individuals learn from their experiences and the results of this learning can be evaluated safely. Experiential learning has become a choice of method for personal development and learning, as well as becoming a widely accepted learning method in colleges and universities. Experiential learning follows a framework that forms the connection between work and personal development. Experiential learning offers a system that complies with educational objectives and defines work requirements and highlights the connections that can be implemented between the classroom setting and the real world. The learning styles theory, which has an important place in the field with Kolb, has revealed many different models. One of them is the model created by Grasha and Reichmann.

That is to say, while other models of learning styles are based more on the assessment of student's personality or cognitive characteristics, "learning style typology" developed by Grasha and Reichmann based on students' real responses in learning environments. This feature distinguishes this model from the other models. Grasha emphasized that the approach of students' learning style in this way is more likely to produce valid and reliable results. According to him, personality approaches require researcher's prediction in the classroom environment. Therefore, Grasha and Reichmann typology is designed to identify teaching techniques based on personal learning styles. This situation provides an advantage to the approach

This work aims to determine the multiple intelligence tendencies and learning styles of Grasha and Reichmann in terms of their importance. The relationship between these tendencies and styles and student' academic achievement is another aim of the research.

I have enjoyed every moment of this work that will contribute to the design of learning environments. I would be happy to see that the results of my study results make a small contribution to the field, to those interested and to all educational stakeholders.

Arda KOÇ
Ankara, December 2019

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CHAPTER I

INTRODUCTION

The process of recognizing and making sense of the environment starts with a sense of curiosity from the first moment of birth. Curiosity is the first step of learning and learning has become inseparable part of our lives in a world where everything is developing and changing rapidly. However, curiosity and interest are not enough to compensate learning. There are many environmental and individual factors that affect learning. Numerous studies in recent years draw attention to factors such as intelligence, age, gender as well as the differences, methods and techniques used by individuals in the learning process. Therefore, each individual in the learning process can carry out learning in different ways. According to Felder (1996), individuals use a number of different methods in the process of receiving and processing information. Some individuals prefer to use mathematical models, some prefer to use visual schemes. Some individuals prefer verbal expressions. There are also individuals who use inner and individual tendencies. The existence of these differences can be accepted as proof of different learning styles for individuals.

A Learning style is the unique behaviour that consists of perception of stimuli, processing, regulation and interpretation of data around the individual (Aydemir, Kocoğlu and Karalı, 2015). According to a study by Ackerman, Sternberg and Glaser (1989), learning focuses on two categories. One of them is the cognitive measures and ability tests, while the other one is non-cognitive measures, which correspond to differences among students.

Thelan (1954) firstly used the word “style” in psychology. The concept of “learning styles” was introduced into the literature by Dunn (1960). After 1970, these concepts were handled by Kolb as “Experiential Learning Theory” and then it was widely used (Brandt, 1990, p.10). Kolb created his model based it Jung’s “learning cycle” (1923) model. Then, these styles got popular especially in educational psychology and they developed in two ways; “cognitive” and “non-cognitive” (Baneshi, Karamdoust, Hakimzadeh, 2013).

On the basis of cognitive processes, learning is handled in the form of transferring events in the environment to the central nervous system. This transfer process is a sensorial record. Processes, recorded stimuluses followed by sense organs, consist of perception, storage and integration. The processes that have existed in the individual’s mind also differ from recorded stimuluses, excitement, perception and regulation changes depending on these qualifications. These differences are called as a cognitive style. The concept of cognitive

style generally reveals the way for individuals' approach to the problems (Rayner, 2015). Keefe (1979) grouped cognitive styles into five categories: physiological, attentional, receptive, expectancy and incentive. Sternberg and Grigorenko (1997) classify them into four categories: cognitive-oriented, personality-oriented, activity-oriented and mental self-government.

Initially, in cognitive styles (reflective and impulsive), it was assumed that individuals behave differently to solve problems because of their style. However, further studies have shown that reflective and impulsive behaviour was not affected from the style itself but from previous knowledges because of that reason it can be said that it does not fit the definition of style. Accordingly, Grasha and Reichmann (1996) propose a model of learning styles that takes into account the interaction and participation of students, rather than 'cognition and personality'. This model provides appropriate definitions for specific learning-teaching styles for the students and the teachers (Baneshi, Karamdoust and Hakimzade, 2013).

The forming of learning style is based on different features of individual's learning process. The approaches that occur in learning styles are the source of the following approaches (Güven, 2004). Although these approaches are influenced by each other, it can be said that they differ from each other with some features. That is to say, while other models of learning styles are based more on the assessment of student's personality or cognitive characteristics, "learning style typology" developed by Grasha and Reichmann based on students' real responses in learning environments. This feature distinguishes this model from the other models. Grasha emphasized that the approach of students' learning style in this way is more likely to produce valid and reliable results. According to him, personality approaches require researcher's prediction in the classroom environment. Therefore, Grasha and Reichmann typology is designed to identify teaching techniques based on personal learning styles. This situation provides an advantage to the approach (Montgomery & Groat, 1998).

Referring with the learning style scale developed by Grasha and Reichmann, the category is within six different ways: competitive, collaborative, passive, participant, dependent and independent. In Competitive Learning Style, students learn to prepare and present material better than other students in the classroom, compete with other students to receive prized or to attract teacher's attention. For these students, classroom is the environment where s/he always win. Considering classroom activities, competitive students

are the leaders in classroom projects, ask questions in the classroom and prefer teacher-centred instruction. (Grasha, 1996).

In Collaborative Learning Style, students learn most effectively by thinking and sharing their skills. The classroom is a place of social interaction for students. They enjoy for cooperation with other students and teacher. Considering the classroom activities, these students like the materials that present and are prepared by students, group projects and talking about the class outside the classroom (Grasha, 1996).

In Passive Learning Style, students are not interested in the course and course content. They do not share any knowledge or information with his/her friends and teachers and considering the classroom activities, these kinds of students are closed to in-class activities. They do not like enthusiastic teachers, the interaction between teachers and students, well-organized lessons, reading and homework (Grasha, 1996).

In Participant Learning Style, students are eager to course subjects, learning process and they like going to school. These students are willing to get responsibility for bringing information from outside to the classroom and share their knowledge to other students in the classroom. Considering the classroom activities, they like discussing the materials, objective and classical exams. They prefer teachers who can do material analysis and synthesis (Grasha, 1996).

In Dependent Learning Style, the intellectual curiosity of the students is limited and they learn just what teacher wants. These kind of students views the teacher and other students as the source. They consider the teacher as a guide and they see themselves as the one who makes what others say. Considering the classroom activities, they want to get summarize and note about the topic from the teachers. They expect the exact date for the assignments and they prefer teacher-centred instruction (Grasha, 1996).

In addition to the learning style, developed by Grasha and Reichmann, another theory that facilitates and strengthens the process of learning is the “Multiple Intelligence” theory which is developed by Howard Gardner in 1983 and this theory has been widely used in education world.

Today, with the developments in the field of education and psychology, it is thought that what individuals will do rather than what they can do. Multiple intelligence theory has also been proposed for the purpose of considering new pedagogical method.

Gardner defines the intelligence as the capacity of demonstrating a product in one or more than one cultures which was deemed suitable, the effective problem-solving abilities

that one faces in real life, the ability to find out the problems of new and complex structures that must be solved (as cited in Bellenka, 1997). Gardner named talents that people have in different way, their potential and abilities as a "areas of intelligence" have played an important role for humanity. In his book called "*Frames of Mind*", Gardner (1983) suggests that a person has a wide range of abilities, consisting of at least seven fundament areas of intelligence. In 1997, he added a new intelligence ability called "Naturalist Intelligence" (Bellenka, 1997; Bumen, 2004). Additionally, Gardner added a ninth type of intelligence in the literature and it is called "existential intelligence"

As a result, Gardner defines nine intelligences as explained below

Linguistic Intelligence:

This tendency is the ability to use language efficiently. Individuals with this intelligence think with words and sounds, comprehend the complex meanings in the language, convince people, notice the different structures in the language form new structures and are interested in new linguistic forms (Gardner, 1994).

Logical-Mathematical Intelligence

Logical and mathematical intelligence encompasses thinking with numbers and their associations. Individuals with this intelligence have an ability of estimation, critical thinking, discovering contrasts, providing logical reasons, classification and sorting. (Gardner, 1994).

Visual-Spatial Intelligence

Visual-Spatial intelligence is an ability to think with pictures and shapes, to perceive the visual world, to see the colours, shapes and textures through the eyes of the mind, and to transform these into a form of art (Gardner, 1994).

Musical Intelligence

Musical intelligence is an ability to think with musical notes, sounds and rhythms. Individuals with this intelligence notice different sounds, produce new sounds and rhythms to understand and use rhythmic and musical concepts. they are also sensitive towards the sounds and the musical instruments (Gardner, 1994)

Bodily-Kinaesthetic Intelligence

This intelligence is an ability to perform certain activities for a certain purpose by integrating body, mind and intelligence to form a perfect physical performance (Gardner, 1994).

Interpersonal Intelligence

The interpersonal-social intelligence is an ability to work and co-operate with other people. Individuals with this intelligence have an ability to easily communicate with people

who have different traits by using linguistic and bodily intelligence language, to manage people, to work with them harmoniously and to convince (Gardner, 1994).

Intrapersonal Intelligence

Intrapersonal intelligence is an ability to shape emotions and thoughts about ourselves, maintain life and form a life philosophy through our experiences, plan our lives in this direction and establish personal plans and aspirations. (Gardner, 1994)

Naturalistic intelligence

Naturalistic intelligence is an ability to recognize the living creatures, research about them, and think about the creation of the living things in the nature (Gardner, 1994).

Existential intelligence

Existential intelligence is an ability to use meta-cognition to explore the things that unknown. These kinds of people are open to debates and they do not afraid any challenge to the norms. (Gardner, 1994)

In these days, there have been significant changes in the view of intelligence alongside the development in education and psychology. Instead of the view that classical tests should not be enough to measure children's intelligence, the potential abilities of children should be revealed. Gardner stated that individuals do not have the same way of thinking. He also argued that considering these differences of individuals, education will be more effective. If individuals can recognize their different intelligence components, they may be lucky in respect of solving the problems they will encounter. According to Gardner, biological and cultural factors are the core of the theory of Multiple Intelligence.

The usage of "Multiple Intelligence" in education aims to provide positive teacher-student communication and creating a true learning environment considering their intelligence tendencies. It should not be forgotten that an education that can establish the cause-effect relationship which leads the student to research, think and solve problems will be more effective by getting rid of a traditional education which has been lasting for centuries.

It is obvious that knowing the learning style helps the individual to benefit effectively from the learning environment. By providing whole learning with appropriate methods, Multiple Intelligence provides to learn fast, to find convenient study habits, to develop positive attitudes towards learning and to recognize themselves. In this context, it is important to determine the learning styles of the students. Thus, course contents can be prepared and effective learning environment can be created in accordance with the learning

styles of the students during the educational process. Our individual differences lead to differences in our intelligence areas as well as differences in our learning styles. Within this scope, individuals' past experiences, strengths and weaknesses, preferences, goals should be known in an understanding where the focus of learning is individual.

Instead of allowing students to remain unchanging patterns, educational decisions should be made to address the needs of the students (Gardner, 1999). Multiple Intelligence Theory, arose from this need, has received much greater acceptance than traditional intelligence theory. However, its application in education and training has not shown parallelism with the prevalence of this acceptance. For all these reasons, both "Learning Styles Theory" and "Multiple Intelligence Theory" are important learning processes that are worth investigating.

1.1.The Aim and Importance of the Study

The aim of this study is to determine the "Learning Styles" and "Multiple Intelligence Tendencies" of students who are studying English Language teaching at the university while setting a relationship with academic achievement. This study is conducted in terms of revealing the students' multiple intelligence tendencies, learning styles and the correlation between their academical achievements. In order to achieve this aim, this study compares the results of the "Grasha-Reichmann Learning Style Scale" and "Multiple Intelligence Scale" with the success of the students' who are studying English Language Teaching in universities.

1.2. Problem Statement

In the information age, knowledge is an essential thing for humanity. Today, there has been a significant increase in the knowledge, ability, intensity and variety of talent. In the meantime, although our age is an age of micro specialties, interdisciplinary studies have gained great importance in recent years. As a result of these studies, there have been fundamental changes in the knowledge acquired about the research subject and object and new paradigms have influenced all fields of science. For instance, advances in imaging system have brought a new perspective to brain studies and advances in psychology have led to significant improvements in educational sciences. As a result, significant changes and developments have occurred in the theories of learning, which are the most fundamental and indispensable part of human beings. The concept of intelligence, which was previously expressed only as a score, has been replaced by a more dimensional and human-oriented situation with these theories. As a result, the multiple intelligence theory, put forward by

Gardner in 1983, became widely accepted in the learning and teaching environments. These studies also revealed that each person follows different individual and mental processes in acquiring knowledge and improving their skills and abilities. As a result of these research, "Experiential Learning Theory" which was first dealt by Kolb in 1970's. After by Grasha and Reichmann the learning styles which was handled with a different typology was also widely accepted and adopted as multiple intelligence theory. As a result of these new developments and paradigms, it was inevitable that learning and teaching environments should be also become indispensable to the changes. Knowing the multiple intelligence theory and learning styles of the stakeholders gained importance in terms of planning and evaluating the instruction. Considering its importance, this research aims to discuss a problem of the relationship between academic success and students' multiple intelligence tendencies, and their learning styles.

1.3. Problem and Subproblems

The question of "Does Multiple Intelligence Theory and Learning Styles of students who is studying English Language Teaching at Universities have an impact on academic success" constitutes the problem of this research. So as to reach the answer to this question, the following questions have also attempt to be answered.

1. What are the learning style levels of English language students with regard to their social learning preferences?
2. What are the distribution levels regarding multiple intelligence tendencies of English language teaching students?
3. Is there any significant difference among the learning style tendency points with regard to social learning preferences of English language teaching students based on gender?
4. Is there any significant difference among learning style tendencies with regards to social learning preferences of English language students based on the type of university that they attend?
5. Is there any significant difference among learning style tendency points with regard to social learning preferences of English language students based on students' ages?
6. Is there any significant difference among learning style tendency points with regards to social learning preferences of English language students based on class level?
7. Is there any significant difference among learning style tendency points with regards to social learning preferences of English language teaching students based on a categorical distribution of their general weighted average?

8. Is there any significant difference among multiple intelligence tendency distribution of English language teaching students based on gender?
9. Is there any significant difference among multiple intelligence tendency distribution of English language students based on the type of university that they attend?
10. Is there any significant difference among multiple intelligence tendency distribution of English language teaching students based on age?
11. Is there any significant difference among multiple intelligence tendencies of English Language teaching students based on class level?
12. Is there any significant difference among multiple intelligence tendency distribution of English language teaching students based on categorical distribution of their general weighted average?
13. Is there a relationship between multiple intelligence tendency distribution of English language teaching students and general weighted average?
14. Is there any relationship between learning style points with regards to social learning preferences of English language students and general weighted average?

1.4. Limitations

The aim of this research is to determine the effect of multiple intelligence tendencies and learning styles of the students who are studying English language teaching on their academic success and it is limited to the participation of students from one public university and one vocational university.

1.5. Assumptions

1. The academic successes of the students, who are participating in the survey, were included in this research with their declaration. It is assumed that these statements of the students are sincere.

2. In this study, the mother tongue version of the scales was used. Thus, it is assumed that the responses to the scales will contribute more to the research.

CHAPTER II

CONCEPTUAL FRAMEWORK AND RELATED STUDIES

2.1 Definition of Intelligence and Learning Style

The subject of intelligence and how to define it occupied the mankind's mind for centuries. Studies on human intelligence gained momentum at the end of XIX century and beginning of 20th century and studies conducted on humans and animals enabled various theories to emerge. First studies on this subject are Darwin's studies on "animals" and his nephew Galton's studies on "humans" (Gannon, 2004). Binet and Simon gravely contributed to these studies on intelligence in 1916 (Gardner, 1993a). Spearman and Thurstone also brought major innovations and developments to these studies on intelligence. These studies were generally conducted over classical IQ (Intelligence Quotient) tests. Concepts of Intelligence and IQ acquired a very different dimension after Howard Gardner (1993a) wrote his book "*Frames of Mind: The Theory of Multiple Intelligences*" in 1983. After publishing Gardner's (1993b), "*Frames of Mind: The Theory in Practice*", understanding of intelligence turned into practice. A number of criticisms against the theory are observed as well as literature and research results which support the theory. Whether the eight potentials which are accepted as intelligence types are a talent or indeed intelligence type is one of the main criticisms over the theory (White and Breen, 1998). Although there are criticisms against multiple intelligence theory, it is mentioned that very few theories in the field of education created an impact as serious as the multiple intelligence theory suggested by Gardner (Shearer, 2004; Saban, 2009).

Keefe (1987) defined the learning style as "Learning Styles are characteristic cognitive, affective and physiological traits that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment" (p.20). Lemlech (1984) claimed that "learning styles emanate from natural, inborn inclinations. The individual's learning style manifests itself through preferred senses and personality characteristics" (as cited in Stewart, 1990:371). Reid (1995), who also supported the same argument, claimed that people have different learning styles and these styles differ according to their nature, and there are accustomed and preferred methods to assimilate process and keep new information and skills. Kolb (1984) stated that "Learning is the process whereby knowledge is created through the transformation of experience" (p. 38). Grasha and Reichmann (1996) claimed that the learning style consists of the interaction of students'

classmates, teachers and course content. Grasha (1996) emphasized the flexibility of learning styles and the importance of effective communication between teachers and students. (Halili, Naimie, Sira, Abuzaid, Lenge, 2014). Above mentioned definitions all showed that learning styles are a comprehensive concept depending on a person's cognitive, psychological and effective variables.

2.2 Models of Learning Styles

2.2.1 Kolb Learning Style:

While setting the ground of experimental learning, Kolb was influenced by John Dewey from philosophical view of pragmatism, Kurt Lewin from Gestalt psychological view, and French developmental psychologist Jean Piaget from rationalist view (Kolb, 1984).

Kolb's "Experimental Learning Theory" forms the basis of Kolb learning style model. The difference of experimental learning from other cognitive learning theories is that it emphasizes the role of experiences in learning process. The theory defines learning as knowledge being created by transformation of experience. It is claimed that there are two dimensions which are cognition and transformation during learning process (Kolb, 1984).

Kolb worked on experimental learning since 1960's, he introduced experimental learning which is based on individuals' learning styles in 1970's. He explained learning as a four-staged process and emphasized that the individuals have some concrete experiences as a natural result of their living environment and they both observe and reflect these experiences differently (Peker, Mirasyedioğlu 2003; Gencel, 2007). Therefore, four-stages of learning continues for a lifetime, a new experience is gained each time and these experiences form a basis for the next learning.

Kolb states that learning is formed through transformation of knowledge to experiences and separates his learning style to four basic categories. These are Concrete Experience, Abstract Conceptualization, Active Experimentation and Reflective Observation. Based on experimental learning, learning is a cycle. One of these categories take primacy for the individual from time to time and it is inevitable to go through this cycle countless times during a learning experience (as cited in Hasırcı, 2006).

According to Kolb, two dimensions can be mentioned during an individual's learning process. First of these dimensions extends to concrete experience from abstract conceptualization, second of these dimensions extends to reflective observation from active experimentation. First of these dimensions explains how an individual perceives the

knowledge, second one explains how an individual process the knowledge. Accordingly, individuals in Kolb learning style model perceive knowledge by feeling or thinking and process by watching or doing.

Learning paths, which represent each learning style, are different. For example, learning by 'feeling' is for concrete experience, 'watching and listening' is for reflective observation, 'thinking' is for abstract conceptualization and 'doing' is for active experimentation. Learning style of each individual is the combination of these four basic learning styles (Figure 2.1).

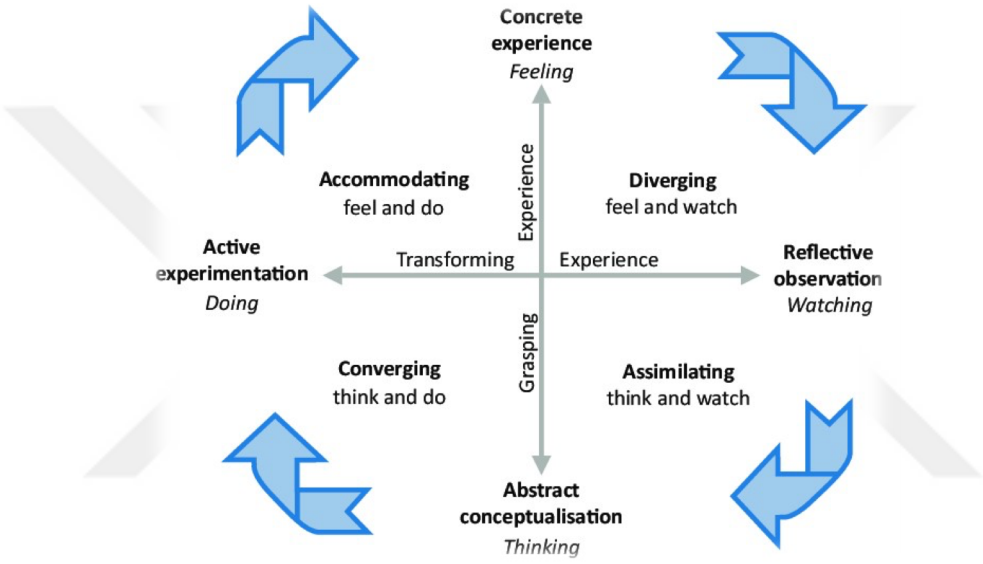

Figure 2.1 Kolb Learning style Cycle

These learning styles are; "diverging" which is the combination of concrete experience and reflective observation, "assimilating" which is the combination of reflective observation and abstract conceptualization, "converging" which is the combination of abstract conceptualization and active experimentation, "accommodating" which is the combination of concrete experience and active experimentation (Gencel, 2007, Peker, 2003, Hasırcı 2006, Mutlu ve Aydoğdu, 2003).

Description and learning activities of Kolb's four learning styles are as follows:

1. Concrete Experience:

Learning by feeling which is realized by individual experiences, interaction with other individuals and sensitivity to individuals and feelings are of important. New experiences, games, role playing, discussion between peer groups, getting feedbacks and individual study are amongst the main learning activities.

2. Reflective Observation

Learning is by watching and listening which is realized by carefully watching the related incident before making any decisions, looking at the related object from different perspectives and searching the meaning of the object, at play. Tests with direct instruction method and objective questions, which measures the knowledge of the individual regarding the related subject, is suggested for individual with this learning style.

3. Abstract Conceptualization

Individuals, who adopt this learning style work alone, learn theories by reading, and presenting their thoughts in a logical manner is necessary for an effective learning. Individuals, who adopts this learning style, prefer learning by thinking which is realized by acting after conducting logical analysis of thoughts and incidents.

4. Active Experimentation

Individuals with this learning style tend to have a practical approach rather than watching and adapting the convenient instead of absolute reality, thus they deny others. In this learning style, learning by doing which is realized by affecting individuals and incidents through actions and where practical talents stand out is preferred. While preparing learning-teaching environments for individuals, who adapt Active Experimentation learning style, learning activities, consisting of practical small group discussions, individual learning activities and projects should be considered.

Descriptions of Kolb's learning styles of experimental learning model are as follows;

2.2.1.1 Divergent Learning Style

Concrete experience and reflective observation learning abilities are dominant in individuals with divergent learning style. The most important characteristics of these individuals are having thinking abilities and awareness of meaning and value. Basic ability of these individuals is reviewing concrete situations from various perspectives and organizing relations in a meaningful way. Adaption by watching rather than acting is emphasized in this style. These individuals are patient, objective and carefully judge during learning process but they avoid acting. They take their own emotions and thoughts into consideration while forming opinions. The reason why this learning style is called Divergent is that individuals with this style have better performances in cases where they are asked to form alternative ideas such as brainstorming.

2.2.1.2 Assimilating Learning Style

Abstract conceptualization and reflective observation learning abilities are dominant in individuals via assimilating learning style. The most important characteristic of these individuals is having the ability to form conceptual models. Like individuals with converging learning style, these individuals also focus less on social matters and are more interested in abstract concepts and ideas. It is more important that theories are logically sound and certain. Learning by watching and thinking is at play.

2.2.1.3 Converging Learning Style

Abstract conceptualism and active experimentation learning abilities are fundamentally dominant in individuals with converging learning style. The most prominent skills of these individuals are problem solving, decision making, practical realization of ideas, logical analyses of ideas and systematically planning. The reason why this learning style is called converging depends on the fact that individuals having this style are the best at conventional intelligence tests where there is only one right answer or solution to a question or a problem. Information is organized and special problems are focused on with this learning style. These individuals can be controlled in expressing their emotions. They are accomplished in problem solving and technical tasks rather than social and interpersonal matters. Individuals systematically plan while solving problems and learn by doing.

2.2.1.4 Accommodating Learning Style

Concrete experience and active experimenting learning abilities are dominant in these individuals. Their most prominent features are doing, planning and being a part of new experiences. Seeking opportunities, risk taking and acting are emphasized in this style. The reason why this learning style is called accommodating is that the individuals with this style are the most suitable for situations where they have to adapt to changes. When theory or plans do not correspond to the truth, the accommodating individuals are most likely to abandon the plan or theory. These individuals highly depend on other people for information rather than their own analytical skills. They tend to solve problems with intuitional trial and error. These individuals can easily establish a relationship with people, but they sometimes seem impatient. These individuals are open-minded when it comes to learning and they adapt to changes with ease. Learning by doing and feeling are at play (Mcleod, 2017).

2.2.2 Myers-Briggs's Psychological Type Indicator Model:

This model is readjusted from Psychologist Carl Jung's theory of psychological types and it is a study known for its scaling factor which enables evaluating student types. Model consists of eight factors which are in counter relation with 4 types given in Table 2.1 (Brightman, 2005).

Introverted and Extroverted: Extroverted people are outward turned and connected with the outside world, while introverted people are interested in their own inner world.

Sensing and Intuitive: Sensing people focusing on the process or facts, they incline to the details and they are practical. Intuitive people focus on possibilities and meaning, they incline towards the concepts and they are creative.

Thinking and Feeling: Thinking people focus on decision making and logic. They keep busy with the work. Feeling people focus on respecting people, and individuals.

Judging and Perceiving: Judging people try to gather evidence even with missing data, they follow and set the agenda. Perceiving people can adapt to changing conditions to gather data. (Oral and Avanoğlu, 2011).

Table2.1 Preferences of Myers-Briggs Personality Types

ORIENTATION TO LIFE	Extroverted	Introverted
	· Group interactions · Applications	· Working alone · Concepts and ideas
PERCEPTION	Sensing	Intuitive
	· Facts and data · Routine	· Impressions · Not routine
DECISION MAKING	Thinking	Feeling
	· Objective · Logical	· Subjective · Search for harmony
ATTITUDE TO OUTSIDE WORLD	Judgement	Perception
	· Planning · Control	· Spontaneity · Adaptive

2.2.3 Gregorc's learning style model

According to Gregorc, perception capacity has the utmost importance in an individual's learning and learning styles. Individuals are divided into two categories as concrete and abstract perceivers based on their perception capacity, they are divided into two categories as sequential and random based on their capacity to organize the data they perceived. Learning status, based on their perception capacity, forms their learning styles.

Accordingly, in Gregorc Learning Style Model, there are total of four learning styles as Concrete Sequential, Abstract Sequential, Concrete Random and Abstract Random. In short, individuals with the four defined learning styles have the below-mentioned characteristics (Gregorc, 1984).

Characteristics of Individuals with Concrete Sequential Learning Style: They enjoy learning by doing and experiencing, they prefer to receive information step by step and from simple to complex. The whole of the study is more important to them than the parts of it. Their five senses are highly developed. They prefer to learn with concrete materials.

Characteristics of Individuals with Abstract Sequential Learning Style: At first, they create an empty framework on their minds about the subject they will learn. They come to a conclusion about the whole of the subject by taking the information which fits and put this information into the framework that they created on their minds. A shape/symbol is more valuable to them than hundreds of words.

Characteristics of Individuals with Concrete Random Learning Style: They have superior ability to solve problems. They are interested in valid problems and they have an investigative personality trying to obtain new concept and information. They do not need to receive information in a systematically order while solving problems.

Characteristics of Individuals with Abstract Random Learning Style: They perceive incidents and concepts in an unorganized and haphazard way, they do not need an order for the information to be learned. Therefore, they tend to learn at environments where there are multi-sensory experiences. They are accomplished at expressing their emotions and thoughts clearly.

2.2.4 Visual, Auditory, Kinaesthetic/Kinetic Learning Styles:

Although learning styles are categorized in different ways in education, it is possible to gather them under three main groups. Gathering these styles under such groups will aid the teachers to easily prepare suitable learning-teaching environments for students with different learning styles (Oral and Avanoğlu, 2011).

Visual Learning Style

Individuals utilizing visual learning style learn better when the information is presented visually. Therefore, it gains importance for teachers to include visual equipment for in-class activities. Pictures, bulletin boards, photographs, technological devices such as computers and projections are the best stimulus for this type of learners. Visual learners mostly prefer written homework (Demirel, 2010). Visual learners are good at learning with

pictures and images. They highly depend on the teacher's non- verbal cues such as body language to elevate the understanding. They also take descriptive notes over the material being presented (Gilakjani, 2012)

Auditory Learning Style

Auditory learners learn better when the information is presented verbally. They assimilate information in a quicker way by talking to themselves and listening to others. They prefer to learn by listening to the teacher and taking part in discussions in classroom (Oral and Avanoğlu, 2011). These learners discover information through listening and interpreting information by the means of pitch, emphasis and speed. (Gholami, 2013)

Kinaesthetic/Kinetic Learning Style

Kinaesthetic/kinetic learners prefer to learn mostly by touching and in a tactile way. Therefore, it is important for teachers to utilize tangible tools and three-dimensional teaching materials that students can touch for in-class activities. Students are asked to plan, prepare shows, carry out experiments, write and evaluate reports by using three-dimensional teaching materials (Demirel, 2010). Individuals are kinaesthetic learn best with and active "hands-on" approach. These learners favour interaction with the physical world. Most of the kinaesthetic learner's face problem with staying during the whole lessons and focus (Bakri, Rahman, 2019)

2.2.5 Grasha – Reichmann Learning Style

Learning style typology developed by Anthony Grasha and Sheryl Hruska-Reichmann differs from other learning styles. The reason is that this learning style is based on the answers that students give for in-class activities as well as personality and cognitive appraisal. Grasha argued that this approach was safer and more valid. Using personality type approach expects that the researcher draws a conclusion by inferring meaning from classroom arrangement. However, Grasha-Reichmann typology was developed to help with teaching ability and certain learning styles. Basic characteristics of this style are given in Table 2.2.

Table 2.2 Characteristics of Grasha-Reichmann Learning Styles

STYLE	CHARACTERISTICS	CLASSROOM PREFERENCES
Competitive	Compete with other student	Teacher-cantered, class activities
Collaborative	Share ideas with others	Student-led small groups
Avoidant	Uninterested, non-participant	Anonymous environment
Participant	Eager to participate	Lectures with discussions
Dependent	Seek authority figure	Clear instructions, little ambiguity
Independent	Think for themselves	Independent study and projects

Table 2.2 defines certain characteristics of each style in classroom environment. Another characteristic that differs Grasha and Reichmann typology from other styles is that it does not assume bipolarity of the scales (figure 2.2).

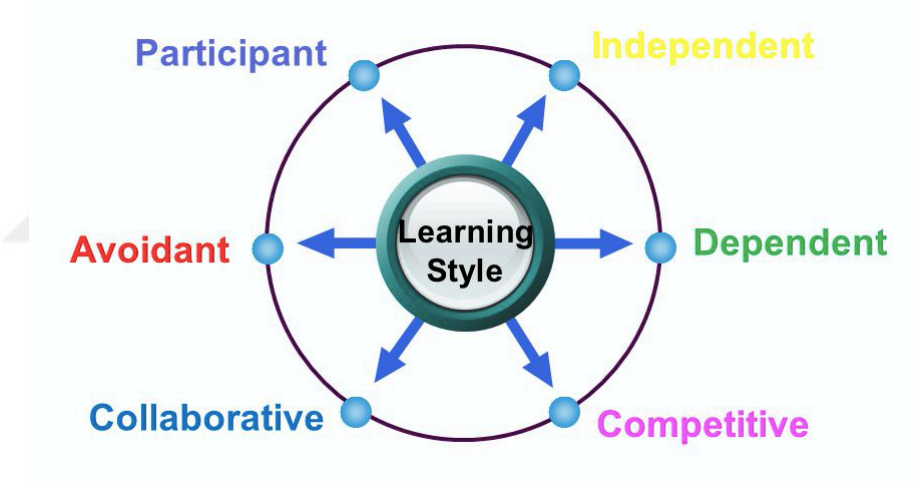

Figure 2.2 Grasha-Reichmann Learning Style Circle

Dichotomy is only seen in statistical analysis of participant/avoidant type amongst six learning styles. In the beginning Grasha assumed other four styles were dichotomy. These were Competitive/Collaborative and Dependent/Independent. However, these dichotomy styles were not supported. Over the years, Grasha and other researchers studied the relationship between learning style typology and other demographical characteristics. In contrast to Kolb's findings, Grasha could not find a consistent relationship between his learning style typology and views of the academic majority. On the other hand, Grasha's research (1996) shows consistent variabilities in terms of gender, age and class. Another characteristic which separates Grasha's approach from other approaches is that learning style

typology is formed based on in-class behaviours. The result shows that learning and teaching styles can be combined to better define social dynamics of classroom environments. Table 2.3 summarizes four basic clusters of compatible learning and teaching styles (Montgomery, Groat p. 5-6).

Table 2.3 Teaching Methods Associated with Each Cluster of Teaching and Learning Style

CLUSTER 1	**CLUSTER2**
Primary Learning Styles **Dependent/Participant/ Competitive**	*Primary Learning Styles* **Participant/Dependent/Competitive**
Primary Teaching Styles **Expert/Formal Authority** · Exams/Grades Emphasized · Lectures · Mini-Lectures and Triggers · Teacher-Cantered Questioning · Term Papers · Technology-Based Presentation	***Primary Teaching Styles*** **Personal Model/Expert/Formal Authority** · Role Modelling by Illustration - Sharing Thought Process - Sharing personal Experiences · Role Modelling by Direct Example - Demonstrating Ways of Doing · Teacher/Coaching/Guiding Students
CLUSTER 3	**CLUSTER 4**
Primary Learning Styles **Facilitator/Personal Model/Expert**	***Primary Learning Styles*** **Independent/Collaborative/Participant**
Primary Learning Styles **Facilitator/Personal Model/Expert** · Case Study · Guided Readings · Key Statements · Laboratory Projects · Roundtable Discussions · Role Plays/Simulations · Problem Based Learning - Group Inquiry - Guided Design - Problem Based Tutorials	*Primary Learning Styles* **Delegator/Facilitator/Expert** · Helping Trios · Independent Study/Research · Jigsaw Groups · Learning Pairs · Practicum · Small Group Work Teams · Student Journals

2.3 Theory of Multiple Intelligences

2.3.1 Development of the Theory

A constant change and development occur in educational methods every day in our era. Every new study brings innovation regarding how far human mind and intelligence can be developed and breaks new ground in science community. As individual differences gain importance, personal development also gained significance and caused an advancement in educational level of societies. Howard Gardner's "Theory of Multiple Intelligences" (1983) emerged as a result of these changes and had repercussions which are still effective in

educational community even today. The Theory of Multiple Intelligences explains how each individual has different intelligences at different degrees and in accordance with these individuals' learning styles, inclinations interest and skills. This theory became very popular among educators since it enables to prepare programs which teaches basic information creatively and in an easy-to-remember way and values students by taking their individual differences into consideration.

2.3.2 Characteristics of the Theory

Theory of Multiple Intelligences started as seven different intelligence type (Linguistic-Verbal Intelligence, Logical-Mathematical Intelligence, Musical Intelligence, Visual-Spatial Intelligence, Bodily-Kinaesthetic Intelligence, Intrapersonal Intelligence, Interpersonal Intelligence), but it was not fixed as it started. In the past years, Natural Intelligence has been added to the group and researches and studies on different intelligence types are still in progress (Figure 2.2).

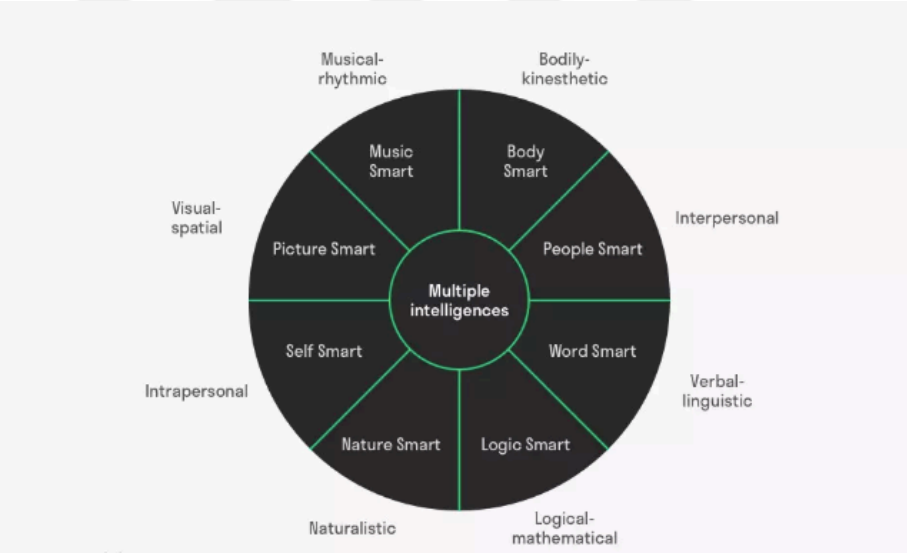

Figure 2.3 Gardner's Multiple Intelligence Theory

According to the Theory of Multiple Intelligences, intelligence is defined as a product which can be changed by cultural and environmental factors that one experience even though it is addressed as having an inborn and fixed structure (Gardner, 1999). Within this concept, the purpose of intelligence is not to categorize individuals but to know them and show their individual characteristics (Bümen, 2002). While defining intelligence, Gardner emphasizes on his belief that intelligence is not a concrete object which can be measured by IQ test consisting of shapes, numbers and words on paper (Fogarty and Stoehr, 2008).

It is possible to briefly define eight different intelligence types that Gardner argued as follows:

1. Verbal-Linguistic Intelligence: ability to use words effectively both verbally and in writing.

2. Logical- Mathematical Intelligence: ability to use numbers effectively, form a cause and effect relation and effectively reason regarding occurrence and process of incidents.

3. Visual- Spatial Intelligence: ability to read maps, prepare drafts, express oneself non-verbally by thinking in pictures and shapes.

4. Musical Intelligence: ability to understand, identify and express musical forms.

5. Bodily- Kinaesthetic Intelligence: ability to use their whole body to express their emotions and thoughts, use their hands effectively and create new objects using their hands.

6. Interpersonal Intelligence: ability to understand the feelings, needs, motivations and desires of the people around them.

7. Intrapersonal Intelligence: ability to be self-aware and behave compatibly to the knowledge and understanding of oneself.

8.Natural Intelligence: ability to recognize living creatures such as plants and animals, categorize them in accordance with their certain characteristics and differentiate them (Gardner, 1999).

Armstrong (1999) explained the reason why Theory of Multiple Intelligences highly influenced and specifically has particularly been accepted in the educational community is that the intelligence is defined and considered as “individual’s ability to successfully adapt to new situation and environments based on their past experiences” (p. 35)

The theory is separated from the conventional understanding by its two key features. First of these features is that the theory defines intelligence is based on real life problem solving and obtaining a product. Contrary to the holistic definition of intelligence which is based on quantified understanding, the theory of multiple intelligences is based on understanding how individuals use their intelligence. Second of these features is that intelligence is handled as plural. Accordingly, each intelligence has a distinctive symbol system and various methods to process information. Additionally, all intelligences are universal while holistic profile of intelligence develops and evolves. Each intelligence has a sub-talent or a second talent or manifests in different manner and intelligences work not separately but in unification. According to the theory of multiple intelligences, all

intelligences are equal and one or some of them are not more important than the others (Bümen, 2005).

As stated before, Gardner did not theorize the Theory of Multiple Intelligences for application to educational community. He does not suggest a specified model for educational applications within this framework. However, according to Gardner the Theory of Multiple Intelligences has two significant benefits for education:

1. The theory enables planning of educational programs in order to get students into a desired state.
2. It enables us to reach more students who are trying to learn important theories and subjects in different disciplines. In other words, if the students are educated in terms of these intelligence types, learning is realized in an easier way.

In this sense, one must primarily accept the idea that we have different learning ways to answer the question "How can this theory be used as a learning tool?" In other words, each individual has his unique learning method. In this case, by using the intelligence types that people find it closest to themselves, enjoy most and are interested in as a tool, we can open doors for identifying and learning different subject (Bümen, 2005).

According to Gardner, the most prominent point in adapting the Theory of Multiple Intelligences to education bases on intelligence profiles. Each student's intelligence profile consists of a combination of strong and weak aspects between interrelated different intelligence types.

Just as different sounds come together to form a symphony in an orchestrate, different intelligences come together to create a meaningful success in an individual. If an instrument can mix with balance and enhance another instrument in an orchestrate, intelligences can also mix with, balance and enhance one another in an individual (Gardner, Moran and Kornhaber, 2006).

Effects of the Theory of Multiple Intelligences on academic success have been supported by scientific research conducted in both Turkey and other countries. In 41 schools that joined the research for the studies conducted within the scope of "*Project Zero*" of University of Harvard, significant results were obtained such as:

- Academic success points increased by 78%
- In particular, performance of students with learning disabilities increased by 80%
- Participation of family into educational activities increased by 80%
- Disciplinary problems at schools decreased by 81%.

2.3.3 The Theory of Multiple Intelligences in Learning a Foreign Language

Method, approach and techniques in foreign language teaching do not act independently of pedagogic changes. Together with these interactions, the Theory of Multiple Intelligences is becoming prevalent in the field of foreign language teaching. The reasons why the Theory of Multiple Intelligences was adapted to education are also valid for adapting it to foreign language teaching. Just as in every field of education, achieving positive changes during the learning process in foreign language teaching by enhancing different intelligence types of students might emphasize the importance of applying the theory in this field.

As stated above, as in every field of education, the Theory of Multiple Intelligences is utilized in foreign language teaching. However, contrary to the other fields of education, utilization of the Theory of Multiple Intelligences is not sufficiently widespread in foreign language teaching. One of the reasons as to this situation is that it is not possible to reach to rich materials which are suitable to the Theory of Multiple Intelligences and able to provide for its heavy content.

2.4 Related Studies

Williams (1990) examined how Kolb Model of Experiential Learning affect knowledge acquisition, skill mastery, and attitudes towards learning. The findings showed that the Kolb Model of Experiential Learning significantly affected knowledge acquisition, skill mastery, and attitudes towards learning experiences. According to these findings, Experiential Learning, and other alternative teaching approaches can have a positive effect on the achievement of students.

Christison (1996) is one of the first person to consider the application of MI Theory in foreign language teaching and learning. She put emphasis on the importance of applying the MI Theory in ELT classrooms to create an individualized learning setting and help the students with diverse abilities to develop their multiple intelligences in her study. According to Christison (1996), EFL teachers are able to see their teaching practices from individual differences perspective with the MI theory. Furthermore, learners can exhibit their strengths and potentials in a learner-centred environment if instructions directed by the MI Theory are utilized (Christison, 1996). Christison (1996) advices teachers to recognize and categorize activities and also suggests four stages to improve lessons based on MI. These stages are as follows: arouse the intelligence, improve and support it, organize lessons according to different intelligence types and integrate intelligences into problem solving.

Christison (1998) advices teachers to take an MI inventory before applying the theory in the classroom. Christison (1998) adds that by taking an MI inventory, teachers can connect their life experiences to the ideas presented in Multiple Intelligence Theory. Teachers mostly prefer activities according to their own life experiences and their own MI profiles. In this case, students' MI profiles are neglected but Christison (1998) advised categorizing EFL activities based on the multiples intelligences theory to cater for students‟ intelligence types.

Erozan and Shibliyev (2006) studied the relationship between prospective English teachers' MI profiles and their preferred activities, and the results showed that there is a consistency between learners' preferred activities and their MI profiles. The results of this study can specifically improve the effectiveness of teaching and learning in ELT courses and generally contribute in designing tasks and activities to promote individualized learning situation.

Powell and Wells (2010) studied how three experiential teaching approaches have effect on students' learning in fifth-grade public school classrooms. Kolb's (1984) Experiential Learning model was the framework to understand the students learning process when participating in Experiential Learning activities. They used classroom exams and written reflections to assess the impacts of activities. The results revealed that there is no significant differences among the three lessons in meeting state standards. However, the lessons affected significantly how students gained knowledge.

According to the study conducted by Hajhasemi (2011), Gardner's Theory of Multiple Intelligences argue that each individual has different intelligence type and different learning strategies. A study conducted with 229 students (121 male, 108 female) in Iran showed that there is a r=0.24 positive relationship between multiple intelligences and learning strategies. In addition, there is a low positive relationship between multiple intelligences and different learning styles. The highest relationship is between meta-cognitive strategy and multiple intelligences. The findings showed that Iranian students mostly use meta-cognitive strategies.

148 students and 10 instructors from Eastern Mediterranean University Prep School participated in Nigera İbragimova's multiple intelligences theory in "Action in EFL classes: A case study research" (2011). The findings showed that linguistic intelligence data were obtained the most from English books while the most dominant intelligence type was intrapersonal intelligence. Observations made in the classrooms yielded the same results.

According to the findings of the study, observed in-class activities do not correspond with the multiple intelligence profiles of the students.

According to the graduate study of Orhan İyitoğlu (2011), the theory of multiple intelligences is a type of teaching in which different multiple intelligence types are utilized as learning strategies. Recently, studies have been conducted to use this theory in foreign language learning. Common argument of these studies is that it is possible for students who learned English as a foreign language in a student-centred environment to improve their English skills with this method. Within this context, this thesis was written to evaluate how the multiple intelligences of university students, who learned English as a foreign language, affect the relationship between their English reading skills and reading strategies. 260 university students who learned English as a foreign language participated in this study. "Reading Strategies Inventory", developed by *Mokhtari and Sheorey* (2002), "Multiple Intelligence Inventory" developed by Mckenzie (1999) and English reading test were used for this study. The findings showed that students, who have higher logical and mathematical intelligence, also have a higher success rate at English reading when the students with other intelligence types when they used problem solving reading strategy.

Jennifer Perna (2011) suggests in her Learning Styles and their effect in Students Learning study that each student has a unique learning style and a unique way to perceive knowledge. The study was conducted in the United States of America and claims that each student has their own different learning styles, learns with different strategies and has different needs during learning process.

In a more specific way, *Chan* (2012) conducted a study showing a community service experiential project in China. He studied how this community service of Experiential Learning affected students to experience deep learning and develop their graduate attributes. In this project, students served the community by applying their knowledge and skills. His study showed that the students' learning process from their project goals, pre-trip preparations, work progress, obstacles affected the final results and reflections. He also found that the four components of Kolb's learning cycle, the concrete experience, reflection observation, abstract conceptualization and active experimentation, transformed and affected student's internalization of learning experience, while yielding a variety of learning outcomes.

This study investigated the relationship between learning styles and the academic performance of students who learn English as a second language in classroom in Iran. A

group of random 488 high school students (248 male and 240 female) participated in this study. They were asked to fill out the Kolb's Learning Styles Inventory to identify four basic learning types: accommodating, diverging, assimilating, and converging. Academic performance was evaluated by achievement test in the English language. The results showed significant relationships between different learning styles and performance in an English test. Their performance yielded different results in four groups with different preferred learning styles. Additionally, the results showed gender differences in the performance in English test for convergent and divergent styles but did not for accommodate and assimilate preferred learning styles. Thanks to these results, we are led to conclude that learning styles can be considered as a good predictor of academic performance in any second language. It should be considered to improve students' performances especially in learning and teaching the second language. The results also indicated that individual differences in learning styles play an important role in this domain.

F. Azarkhordad, V. Mehdinezhad studied the students' learning styles and argued that the learning style is the most prominent part of the teaching and learning process. This study was conducted in 2013 using cross-sectional method. Students in Zahedan city participated in the study and Grasha and Reichmann's "Learning Style Inventory" was applied. The results showed the styles of female and male students were collaborative, dependent and participant. Based on gender, results showed a significant difference with 99% independent and avoidant style, and % 95 participant styles. Based on gender, dominant student styles for males and females are found to be collaborative, competitive and dependent. Therefore, it is concluded that collaborative teaching methods can create opportunities to reach teaching goals and provide access to higher mental activities.

In the article written by Esin Kulaç and others on learning styles and academic success of medical students (2013) relationship between students' learning styles, gender and academic success was reviewed. Grasha and Reichmann "Learning Styles Inventory" was used to determine learning styles. It was determined that medical students mostly have competitive (34,8%) and collaborative (33,7%) learning styles. A relationship was observed between competitive learning style and final grade and pass mark. Additionally, competitive and collaborative female students had significantly higher grades compared to others. Effect of gender on aforementioned relationship was observed when competitive and collaborative female students got higher grades compared to competitive and collaborative male students.

Maria Rezaei Nejad (2015)'study reviewed the effect of high school students' learning styles on academic success. 3958 students participated in this study. Online survey developed by Felder and Solomon was used to determine participant students' learning styles. A positive relationship was observed between students using visual verbal learning style and active reflective learning style as a result of this study.

In the review of literature, the explanations above prove that due to the constant changes in the world, it is inevitable to adapt the changes in language education. Instead of sticking to the traditional patterns, educational decisions should focus on the needs, different learning styles, attitudes and interests of students. Although the lack of sufficient materials or the overloaded content of curricula prevent teachers to utilize the theory of Multiple Intelligence in classroom environment, it is one of the most essential and effective ways of second language teaching. Due to the limited researches on this issue, this study provides the impacts of and tendencies towards Multiple Intelligence as the outcome of academic achievement. Therefore, this research aims to determine the ''Learning Styles'' and ''Multiple Intelligence Tendencies'' of university students who are studying English Language Teaching while setting a relationship with academic achievement. The main focus is on the relationship between students' multiple intelligence areas, social learning preferences and academic success.

CHAPTER III

METHOD

3.1 Research Model

The aim of this study is to reveal the effects of Multiple Intelligence tendencies and learning styles on academic achievement of students studying English Language teaching at the university. At the same time, it aims to determine the relationship between students' multiple intelligence areas, social learning preferences and academic achievement and to reveal the differences between the scores provided from the variables according to the demographic characteristics of the students. With this aspect, this research is a correlational survey model. In the Correlational survey model, it determines the existence and degree of covariance between the multiple variables (Karasar, 2009).

3.2 Population and Sample

The population of the research consists of 774 students who are studying English language teaching in the 2019-2020 academic year at one public and one vocational university. In determining the sample of this research, sample size to be reached was calculated with the equation which is suggested by Büyüköztürk, Çalmak, Akgün, Karadeniz and Demirel (2012).

$$n = \frac{n_0}{1 + \frac{n_0}{N}}$$

Equation 1. Sample size estimation in continuous variables

n_0 which is partaking in equation 1 was calculated by $n_0 = (t^2PQ)/d^2$. When p significance value is taken as 0.05, pq will be 0,25. The t value equaled to in the table is 1,96, n_0 is calculated in 0,05 in the level of significance as n_0=384,16. (Büyüköztürk vd., 2012, p. 93). When n_0 is substituted in the formula, n was calculated as

$$n = \frac{384{,}16}{1 + \frac{384{,}16}{774}} = 256{,}74 = 257$$

Within the context of the research, a total 257 students were reached in one public and one vocational university with the convenience sampling method. In this context, it was observed that the reached sample is sufficient to represent the determined research population. If it is not a specific region, convenience sampling is a sample that applied on the individuals who are willing to participate and who are existing in immediate circle (Erkuş, 2013, p. 122). The distribution of the demographic features of the students which is partaking in the research sample is shown in Table 3.1

Table 3.1 The distribution of Frequency and Percentage on Demographic Characteristics of Students

	Categories	*F*	%
Gender	Male	74	28,8
	Female	183	71,2
University Type	Public	105	40,9
	Vocational	152	59,1
Age	19 and Below	47	18,3
	20	45	17,5
	21	57	22,2
	22	62	24,1
	23 and Above	46	17,9
Class	1	78	30,4
	2	60	23,3
	3	74	28,8
	4	45	17,5
Cumulative grade point average	1,50-1,99	30	11,7
	2,00-2,49	55	21,4
	2,50-2,99	72	28,0
	3,00-3,49	68	26,5
	3,50-4,00	32	12,5
Total		257	100,0

When Table 3.1 is analysed, it was observed that the distributions of frequency and percentage are given according to the demographic features of the students. When the distribution of the students according to their gender was examined, there were 74 (28.8%) male students and 183 (71.2%) female students in the study. When the distribution of students according to the type of university was examined, there are 105 (40,9%) students studying at the state university and 152 (59,1%) students studying at the vocational university. When the distribution of the students according to their age was examined, there are 47 students (18,3%) were under 19, 45 students (17,5%) are 20, 57 students (22,2%) are 21, 62 students (24,1%) are 22 and 46 students (17.9%) are over 23. When the distribution of students according to their class was examined, there are 78 students (30,4%) studying at the freshman year, 60 students (%23,3) studying at the sophomore year, 74 students (28,8%) studying at the junior year and 45 students (17,5%) studying at the senior year. When the distribution of students according to their cumulative grade point average was examined, 30 students (11,7%) have 1,50-1,99 GPA, 55 students (21,4%) have 2,00-2,49 GPA, 72 students (28,0%) have 2,50-2,99 GPA, 68 students (26,5%) have 3,00-3,49 and 32 students (12,5 %) have 3,50-4,00. Overall, there were 257 students (100.0%) who participated in the study.

3.3. Data Collection Tools

3.3.1. Grasha - Reichmann Learning Style Scale

The Grasha – Reichmann Learning Style scale provides a broad framework of learning styles and it divided learning styles into six categories. The scale aims to determine students' social learning preferences in six learning style categories. These are independent, avoidant, collaborative, dependent, competitive, participant. The scale consists of 60 items, five of which are Likert- type, with six sub-dimensions and 10 items for each sub-dimension (App-1). For the validity of the scale, the scale, which was adopted to Turkish by Sarıtaş and Süral (2010), applied first with English to 60 students who were studying English Language Teaching. After 10 days, the Turkish version was applied and the relationship between the two applications was examined. For language validity, the calculated correlation coefficient was found 0.62. The reliability coefficient for whole scale was 0.77 in pilot scheme and in the actual application, the Cronbach Alpha reliability coefficient for the whole scale was calculated 0.80. According to Grasha – Reichmann Learning Style Scale, each learning style is determined in three levels as "low", "medium" and "high". The numerical ranges of the evaluation criterion for these levels and the ratings for the evaluation of the obtained mean in this study are shown in Table 2.

Table 3.2. Rating which is determined in consequence of multiplying with item numbers research of Grasha-Reichmann Rating

	The Rating of Learning Styles			The Rating Within the Scope of the Research		
Learning Styles	Low	Medium	High	Low	Medium	High
Independent	1,0-2,7	2,8-3,8	3,9-5,0	10-27	28-38	39-50
Avoidant	1,0-1,8	1,9-3,1	3,2-5,0	10-18	19-31	32-50
Collaborative	1,0-2,7	2,8-3,4	3,5-5,0	10-27	28-34	35-50
Dependent	1,0-2,9	3,0-4,0	4,1-5,0	10-29	30-40	41-50
Competitive	1,0-1,7	1,8-2,8	2,9-5,0	10-17	18-28	29-50
Participant	1,0-3,0	3,1-4,1	4,2-5,0	10-30	31-41	42-50

3.3.2. Multiple Intelligence Scale

Multiple Intelligence Survey developed by McClellan and Conti (2008). It was adapted to Turkish by Babacan and Dilici (2012) and both validity and reliability were made. The scale consists of 27 items covering nine areas of intelligence (Verbal, Logical, Physical, Musical, Visual, Interpersonal, Internal, Natural and Existential Intelligence) that Gardner has dealt with. The scale has nine sub-dimensions and it is based on rank. The scale aims to

determine which intelligence area that students dominate. The 27 items in the scale were divided into three sections, and nine items in each section represent an area of intelligence (App-2). Students are asked to sort from the closest expressions to the farthest one. Students will give 1 point next to the statement which they feel closest to them and 9 points next to the statement which they feel farthest. It aims to determine which intelligence types the students have according to the score which they provided from the scale. Which type of intelligence students have, is determined by determining the lowest total score they give to the items. The lowest score which is obtained from the scale was 3; the highest score is 27. The language validity of the scale changes between the English and Turkish scale scores range from 0.68 to 0.80 among 130 students from the Department of English Language and Literature which is equivalent to the collected data. For construct validity, confirmatory factor analysis was made by collecting data from 300 students who are studying in pre-school teaching department. When the obtained index values are examined, it was observed that the model has an acceptable level of fit index, that is, the model is verified. When the Cronbach Alpha results, regarding the reliability of the scale, was examined, it was observed that the scale's reliability varies are between 0.73 and 0.86. Therefore, the sub-factors of the scale are seemed to be reliable.

3.4. Analysis of Data

In accordance with the aim of the study, the data which is collected with Appendix 3 from students were processed into SPSS-24 package program. The distributions of data which is collected by using Multiple Intelligence scale, Learning Styles scale and the distributions which is related to the student's cumulative grade point average were examined and it was observed that there are no data showing extreme value problems. In the examination of extreme values, stem and Leaf Plot and boxplot graphs were examined and very-high and very-low values were interpreted as extreme values (Tan, 2016, p. 100). Test of normality and homogeneity were conducted to determine whether the data distribution was parametric or nonparametric before examining the effect of the scores obtained from the scales on the academic achievement to observe, whether there was a significant difference according to the relationship and demographic features between them. Skewness and kurtosis values were examined to test the normal distribution assumption of the scores which is related to the general and sub-factors of the scale. Table 3 shows that the skewness and kurtosis values examined for testing the assumption of normality vary between -1 and +1. As a measure of the assumption of normality, it is stated that the coefficients of skewness

and kurtosis are within the range of -1 to +1 (Morgan, Leech, Gloeckner & Barrett, 2004, p.50). When the homogeneity of the test variances, i.e. the distribution of Levene homogeneity test is examined, it is concluded that the test variances of the distribution of scores according to Levene Statistics p>,05 are homogeneously distributed. It was observed that the score distribution of the scale is continuous data and is equally spaced scale level. The fact that two groups (samples) were independent of each other, that the dependent variables were measured at the range or ratio scale level, and that the assumptions of normality and homogeneity provided the parametric test assumptions. (Köklü, Büyüköztürk & Bökeoğlu, 2007, p. 152-161).

Table3.3. Skewness and Kurtosis Ratio related to the normality of the points that belong to the points that students acquired on Scales and Cumulative Grade Point Average

	N=257	Skewness	Kurtosis
Grasha-Reichmann Learning Style Scales	Independent	-,080	,321
	Avoidant	,283	-,208
	Collaborative	-,629	,595
	Dependent	-,434	,501
	Competitive	,393	,188
	Participant	,098	-,757
Multiple Intelligence Scales	Kinaesthetic	-,520	-,313
	Existential	,120	-,766
	Interpersonal	-,093	-,367
	Intrapersonal	,403	-,238
	Logical	,187	-,513
	Musical	-,251	-,326
	Naturalist	-,769	-,120
	Verbal	,210	-,164
	Visual	-,509	-,414
Cumulative Grade Point Average		-,102	-,815

When Table 3 is examined, it was observed that the skewness values and kurtosis values are within the range of +1 to -1, thus providing the assumption of normality and the variance according to Levene statistic is homogeneous. The descriptive statistics (mean, standard deviation, minimum and maximum value) of the distribution of scores related to the level of social learning preferences of the students of the learning styles scale were examined. When the preference order of the students for Multiple Intelligence areas is taken into consideration, considering the domination of the intelligence areas with the smallest points, the distributions according to intelligence areas are expressing as frequency and percentage.

The effect of students' multiple intelligence domains and learning styles on their academic achievement was calculated by Pearson correlation analysis. It was interpreted by taking into consideration the coefficient of determination based on correlation analysis. The coefficient of determination is calculated by squaring the correlation coefficient and indicate what percentage of change in one variable can be explained by the change in the other variable (Can, 2014, p. 351). Independent - Sample t test was used to determine the difference between the demographic characteristics of the students and the scores they received from the scales according to gender and the type of university they studied. One – Way ANOVA was used to determine the difference between the scores obtained from the scales according to the categorized form of the students' demographic characteristics such as age, grade level and cumulative grade point average. In case of significant differences in the context of variables with more than two groups, Tukey test was selected from one-way analysis of variance (Post Hoc) tests to compare the groups (Can, 2014, p. 152).

CHAPTER IV

FINDINGS

4.1. First Sub-Problem: What are the learning style levels of English language students with regard to their social learning preferences?

Table 4.1. Descriptive Statistical Results of Learning Style Levels of the Students with regards to Their Social Learning Preferences

Learning Styles	N	Minimum	Maximum	$\overline{X}$ (Mean)	Std. Deviation	Level
Independent	257	20,00	49,00	36,63	4,70	Medium
Avoidant	257	15,00	45,00	28,17	5,86	Medium
Collaborative	257	17,00	50,00	36,67	6,60	High
Dependent	257	24,00	48,00	39,56	4,03	Medium
Competitive	257	12,00	50,00	28,76	7,14	High
Participant	257	22,00	49,00	35,09	6,27	Medium

When Table 4.1. is reviewed, we can see the learning style levels of the students with regards to their social learning preferences. Out of social learning preferences of students, when we look at the independent learning style, its minimum value is 20,00 and maximum value is 49,00. Mean value of independent learning style is $\overline{X}$ =36,63 (S=4,70). It has been determined that the students have medium-level independent learning style according to this mean value. Out of social learning preferences of students, when we look at the avoidant learning style, its minimum value is 15,00 and maximum value is 45,00. Mean value of avoidant learning style is $\overline{X}$ =28,17 (S=5,86). It has been determined that the students have medium-level avoidant learning style according to this mean value. Out of social learning preferences of students, when we look at the collaborative learning style, its minimum value is 17,00 and maximum value is 50,00. Mean value of collaborative learning style is $\overline{X}$ =36,67 (S=6,60). It has been determined that the students have medium-level collaborative learning style according to this mean value. Out of social learning preferences of students, when we look at the dependent learning style, its minimum value is 24,00 and maximum value is 48,00. Mean value of dependent learning style is $\overline{X}$ =39,56 (S=4,03). It has been determined that the students have medium-level dependent learning style according to this mean value. Out of social learning preferences of students, when we look at the competitive learning style, its minimum value is 12,00 and maximum value is 50,00. Mean value of

competitive learning style is $\overline{X}$ =28,76 (S=7,14). It has been determined that the students have high-level competitive learning style according to this mean value. Out of social learning preferences of students, when we look at the participant learning style, its minimum value is 22,00 and maximum value is 49,00. Mean value of participant learning style is $\overline{X}$ =35,09 (S=6,27). It has been determined that the students have medium-level participant learning style according to this mean value.

4.2. Second Sub-Problem: What are the distribution levels regarding multiple intelligence tendencies of English language students?

Table4.2. Frequency and Percentage Results of Multiple Intelligence Tendency Distribution of Students

	N=257	Frequency (F)	Percent (%)
Multiple Intelligence Scale	Bodily/Kinaesthetic	31	12,1
	Existentialist	76	29,6
	Interpersonal	31	12,1
	Intrapersonal	23	8,9
	Logical	11	4,3
	Musical	21	8,2
	Natural	13	5,1
	Verbal	46	17,9
	Visual	5	1,9
Total Number of Students		257	100,0

When Table 4.2 is reviewed, frequency and percentage values of English language students' intelligence types which are classified by considering the lowest points as a result of the multiple intelligence tendency listing of students are given. It is indicated that 12,1 % (N=31) of the students prefer kinaesthetic intelligence. It is indicated that %29,6 (N=76) of the students prefer existential intelligence. It is indicated that 12,1 (N=31) of the students prefer interpersonal intelligence. It is indicated that 8,9% (N=23) of the students prefer intrapersonal intelligence. It is indicated that 4,3% (N=11) of the students prefer logical intelligence. It is indicated that 8,2%(N=21) of the students prefer musical intelligence. It is indicated that 5,1% (N=13) of the students have naturalist intelligence. It is indicated that 17,9% (N=46) of the students have linguistic intelligence. It is indicated that 1,9% (N=5) of the students have spatial intelligence.

4.3. Third Sub-Problem: Is there a significant difference among the learning style tendency points with regards to social learning preferences of English language students based on gender?

Table 4.3. Independent-Samples T-Test Results of the Difference between Learning Style Tendency Points with regards to Social Learning Preferences of Students based on Gender

Learning Styles	Gender	N	$\overline{X}$	S	t	sd	p
Independent	Male	74	36,07	4,69	1,21	255	,226
	Female	183	36,85	4,70			
Avoidant	Male	74	29,85	6,17	2,97	255	,003*
	Female	183	27,49	5,61			
Collaborative	Male	74	37,35	6,08	1,05	255	,293
	Female	183	36,39	6,79			
Dependent	Male	74	38,43	4,47	2,90	255	,004*
	Female	183	40,02	3,76			
Competitive	Male	74	28,70	7,31	,08	255	,936
	Female	183	28,78	7,09			
Participant	Male	74	32,86	6,33	3,71	255	,000*
	Female	183	35,99	6,03			

*p<,05

When Table 4.3 is reviewed, we can see if there is a significant difference between learning style tendency points with regards to social learning preferences of the students based on gender. In "Independent Learning Style" which is the sub-factor of learning style inventory, when we look at $t_{(255)}$=1,21, p=,226>,05, we see there is not a significant difference between tendency points based on students' genders. In "Avoidant Learning Style" sub-factor, when we look at $t_{(255)}$=2,97, p=,003<,05, we see there is a significant difference between tendency points based on students' genders. This significant difference stems from the fact that male students have higher avoidant tendency points ($\overline{X}$ =29,85) than female students' avoidant tendency points ($\overline{X}$ =27,49). In "Collaborative Learning Style" sub-factor, when we look at $t_{(255)}$=1,05, p=,293>,05 we see there is not a significant difference between tendency points based on students' genders,. In "Dependent Learning Style" sub-factor, when we look at $t_{(255)}$=2,90, p=,004<,05, we see there is a significant difference between tendency points based on students' genders. This significant difference stems from the fact that male students have lower dependent tendency points ($\overline{X}$ =38,43) than female students' dependent tendency points ($\overline{X}$ =40,02). In "Competitive Learning Style" sub-factor, when we look at $t_{(255)}$=,08, p=,936>,05, we see there is not a significant

difference between tendency points based on students' genders. In "Participant Learning Style" sub-factor, when we look at $t_{(255)}$=3,71, p=,000<,05, we see there is a significant difference between tendency points based on students' genders. This significant difference stems from the fact that male students have lower participant tendency points ($\overline{X}$ =32,86) than female students' participant tendency points ($\overline{X}$ =35,99).

4.4. Forth Sub-Problem: Is there significant difference between learning style tendencies with regards to social learning preferences of English language students based on the type of university that they attend?

Table 4.4. Independent-Samples T-Test Results of Difference between Learning Style Tendency Points with regards to Social Learning Preferences of Students based on the Type of University that They Attend

Learning Styles	University Type	N	$\overline{X}$	S	t	sd	p
Independence	Public	105	37,00	3,90	1,06	255	,291
	Vocational	152	36,37	5,18			
Avoidant	Public	105	29,30	5,20	2,58	255	,010*
	Vocational	152	27,39	6,18			
Collaborative	Public	105	36,76	6,05	,19	255	,852
	Vocational	152	36,61	6,96			
Dependent	Public	105	39,07	3,83	1,65	255	,100
	Vocational	152	39,91	4,14			
Competitive	Public	105	28,80	7,13	,08	255	,939
	Vocational	152	28,73	7,17			
Participant	Public	105	34,59	6,43	1,06	255	,290
	Vocational	152	35,43	6,16			

*p<,05

When Table 4.4 is reviewed, we can see if there is a difference between learning style tendency points with regards to social learning preferences of students based on the type of university that they attend. In "Independent Learning Style" which is the sub-factor of learning style inventory, when we look at $t_{(255)}$=1,06, p=,291>,05, we see there is not a significant difference between tendency points based on the type of university that students attend. In "Avoidant Learning Style" sub-factor, when we look at $t_{(255)}$=2,58, p=,010<,05, we see there is a significant difference between tendency points based on the type of university that students attend. This significant difference stems from the fact that the students who attend to public universities have higher avoidant tendency points ($\overline{X}$ =29,30) than avoidant tendency points ($\overline{X}$ =27,39) of the students who attend to vocational universities. In "Collaborative Learning Style" sub-factor, when we look at $t_{(255)}$=,19,

p=,852>,05, we see there is not a significant difference between tendency points based on the type of university that students attend. In “Dependent Learning Style” sub-factor, when we look at $t_{(255)}$=1,65, p=,100>,05, we see there is not a significant difference between tendency points based on the type of university that students attend. In “Competitive Learning Style” sub-factor, when we look at $t_{(255)}$=,08, p=,939>,05, we see there is not a significant difference between tendency points based on the type of university that students attend. In “Participant Learning Style” sub-factor, when we look at $t_{(255)}$=1,06, p=,290>,05, we see there is not a significant difference between tendency points based on the type of university that students attend.

4.5. Fifth Sub-Problem: Is there significant difference among learning style tendency points with regards to social learning preferences of English language students based on students' ages?

Table 4.5. One-Way ANOVA Results of Difference between Learning Style Tendency Points with regards to Social Learning Preferences of Students based on Age

Learning Styles	Age	N	$\overline{X}$	S	F(4-252)	p	Post Hoc (Tukey)
Independent	19 and below	47	36,98	4,01	1,07	,371	
	20	45	37,44	5,79			
	21	57	35,81	4,92			
	22	62	36,19	3,70			
	23 and above	46	37,07	5,08			
Avoidant	19 and below	47	27,81	5,74	,56	,692	
	20	45	29,02	6,72			
	21	57	27,81	5,80			
	22	62	28,63	5,22			
	23 and above	46	27,54	6,11			
Collaborative	19 and below	47	36,74	7,37	,78	,540	
	20	45	36,42	7,79			
	21	57	35,89	6,28			
	22	62	36,44	5,31			
	23 and above	46	38,11	6,51			
Dependent	19 and below	47	38,02	4,01	2,59	,037*	20>19 and below
	20	45	40,53	3,76			
	21	57	39,91	3,59			
	22	62	39,52	3,65			
	23 and above	46	39,83	4,95			
Competitive	19 below	47	29,74	8,11	,82	,513	
	20	45	28,62	7,95			
	21	57	28,14	6,15			
	22	62	27,89	7,06			
	23 and above	46	29,83	6,52			
Participant	19 and below	47	34,74	6,47	1,71	,148	
	20	45	35,27	7,41			
	21	57	34,35	5,98			
	22	62	34,37	5,56			
	23 and above	46	37,15	5,91			

*p<,05

When Table 4.5 is reviewed, we can see if there is a significant difference between learning style tendency points with regards to social learning preferences of the students based on age. Regarding "Independent Learning Style" sub-factor, when we look at $F_{(4-252)}$=1,07, p=,371>,05, we see there is not a significant difference between tendency points based on student's ages. Regarding "Avoidant Learning Style" sub-factor, when we look at

$F_{(4-252)}$=,56, p=,692>,05, we see there is not a significant difference between tendency points based on student's ages. Regarding "Collaborative Learning Style" sub-factor, when we look at $F_{(4-252)}$=,78, p=,540>,05, we see there is not a significant difference between tendency points based on student's ages. Regarding "Dependent Learning Style" sub-factor, when we look at $F_{(4-252)}$=2,59, p=,037<,05, we see there is a significant difference between tendency points based on student's ages. This significant difference stems from the fact that dependent learning style tendency points ($\overline{X}$ =40,53) of the students who are 20 years old are higher than dependent learning style tendency points ($\overline{X}$ =38,02) of the students who are 19 and younger. Regarding "Competitive Learning Style" sub-factor, when we look at $F_{(4-252)}$=,82, p=,513>,05, we see there is not a significant difference between tendency points based on student's ages. Regarding "Participant Learning Style" sub-factor, when we look at $F_{(4-252)}$=1,71, p=,148>,05, we see there is not a significant difference among tendency points based on student's ages

4.6. Sixth Sub-Problem: Is there a significant difference among learning style tendency points with regards to social learning preferences of English language students based on class level?

Table 4.6. One-Way ANOVA Results of Difference between Learning Style Tendency Points with regards to Social Learning Preferences of Students based on Class Level

Learning Styles	Class Level	N	$\overline{X}$	S	F(3-253)	p	Post Hoc (Tukey)
Independent	1	78	37,12	4,45	1,61	,188	
	2	60	37,35	5,34			
	3	74	35,95	4,30			
	4	45	35,93	4,77			
Avoidant	1	78	28,23	6,57	2,17	,092	
	2	60	28,15	5,59			
	3	74	27,08	5,08			
	4	45	29,89	5,89			
Collaborative	1	78	36,76	7,19	,44	,728	
	2	60	35,90	7,24			
	3	74	36,80	6,21			
	4	45	37,33	5,19			
Dependent	1	78	38,36	4,23	4,58	,004*	4>2
	2	60	39,45	4,40			
	3	74	40,69	3,32			
	4	45	39,96	3,77			
Competitive	1	78	28,96	7,18	,36	,783	
	2	60	29,40	7,90			
	3	74	28,19	6,73			
	4	45	28,49	6,79			
Participant	1	78	34,22	6,48	1,31	,271	
	2	60	36,32	7,23			
	3	74	35,19	5,07			
	4	45	34,80	6,24			

*p<,05

When Table 4.6 is reviewed, we can see whether there is a significant difference between learning style tendency points with regards to social learning preferences of students based on class level. In relation to the "Independent Learning Style" sub-factor, when we look at $F_{(3-253)}$=1,61, p=,188>,05, we see there is not a significant difference between tendency points based on students' class level. Regarding "Avoidant Learning Style" sub-factor, when we look at $F_{(3-253)}$=2,17, p=,092>,05, we see there is not a significant difference between tendency points based on students' class level. With regard to "Collaborative Learning Style" sub-factor, when we look at $F_{(3-253)}$=,44, p=,728>,05, we see there is not a significant difference between tendency points based on students' class level.

Regarding “Dependent Learning Style” sub-factor, when we look at $F_{(3-253)}$=4,58, p=,004<,05, we see there is a significant difference between tendency points based on students’ class level. This significant difference stems from the fact that dependent learning style tendency points ($\overline{X}$ =40,69) of the senior students are higher than dependent learning style tendency points ($\overline{X}$ =38,36) of the sophomore students. Respecting “Competitive Learning Style” sub-factor, when we look at $F_{(3-253)}$=,36, p=,783>,05, we see there is not a significant difference between tendency points based on students’ class level. Regarding “Participant Learning Style” sub-factor, when we look at $F_{(3-253)}$=1,31, p=,271>,05, we see there is not a significant difference among tendency points based on students’ class level.

4.7. Seventh Sub-Problem: Is there significant difference among learning style tendency points with regards to social learning preferences of English language students based on categorical distribution of their general weighted average?

Table 4.7. One-Way ANOVA Results of Difference between Learning Style Tendency Points with regards to social learning preferences of Students based on Categorical Distribution of General Weighted Average

Learning Styles	GPA	N	$\overline{X}$	S	F(4-252)	p	Post Hoc (Tukey)
Independent	1,50-1,99	30	35,47	5,80	4,14	,003*	4>2, 3>2
	2,00-2,49	55	34,76	4,21			
	2,50-2,99	72	37,22	4,72			
	3,00-3,49	68	37,69	4,64			
	3,50-4,00	32	37,31	3,40			
Avoidant	1,50-1,99	30	30,47	6,53	6,49	,000*	1>4, 2>4, 3>4
	2,00-2,49	55	30,02	5,49			
	2,50-2,99	72	28,56	5,53			
	3,00-3,49	68	25,60	5,11			
	3,50-4,00	32	27,44	6,18			
Collaborative	1,50-1,99	30	36,37	6,27	,82	,517	
	2,00-2,49	55	36,91	5,18			
	2,50-2,99	72	37,44	6,30			
	3,00-3,49	68	36,59	6,64			
	3,50-4,00	32	34,97	9,22			
Dependent	1,50-1,99	30	39,23	5,26	1,00	,406	
	2,00-2,49	55	39,49	3,79			
	2,50-2,99	72	40,07	4,44			
	3,00-3,49	68	39,76	3,30			
	3,50-4,00	32	38,44	3,56			
Competitive	1,50-1,99	30	28,20	7,56	1,55	,187	
	2,00-2,49	55	27,40	6,23			
	2,50-2,99	72	29,31	6,99			
	3,00-3,49	68	30,13	7,32			
	3,50-4,00	32	27,47	7,87			
Participant	1,50-1,99	30	33,30	5,95	7,21	,000*	4>1, 4>2, 4>3
	2,00-2,49	55	32,65	5,51			
	2,50-2,99	72	34,83	5,90			
	3,00-3,49	68	38,07	5,82			
	3,50-4,00	32	35,19	7,23			

*p<,05 Categories: 1,50-1,99=1; 2,00-2,49=2; 2,50-2,99=3; 3,00-3,49=4; 3,50-4,00=5

When Table 4.6 is reviewed, we can see if there is a significant difference between learning style tendency points with regards to social learning preferences of students based on their general weighted average. With regard to "Independent Learning Style" sub-factor, when we look at $F_{(4-252)}$=4,14, p=,003<,05, there is a significant difference between tendency

points based on categorical distribution of students' general weighted average. This significant difference stems from the fact that independent learning style tendency points ($\overline{X}$ =37,69) of the students with an average of 3,00-3,49 and independent learning style tendency points ($\overline{X}$ =37,22) of the students with an average of 2,50-2,99 are higher than independent learning style tendency points ($\overline{X}$ =34,76) of the students with an average of 2,00-2,49. With respect to "Avoidant Learning Style" sub-factor, when we look at $F_{(4-252)}$=6,49, p=,000<,05, there is a significant difference between tendency points based on categorical distribution of students' general weighted average. This significant difference stems from the fact that avoidant learning style tendency points ($\overline{X}$ =30,47) of the students with an average of 1,50-1,99 , avoidant learning style tendency points ($\overline{X}$ =30,02) of the students with an average of 2,00-2,49 and avoidant learning style tendency points ($\overline{X}$ =28,56) of the students with an average of 2,50-2,99 are higher than avoidant learning style tendency points ($\overline{X}$ =25,60) of the students with an average of 3,00-3,49. Regarding "Collaborative Learning Style" sub-factor, when we look at $F_{(4-252)}$=,82, p=,517>,05, there is not a significant difference between tendency points based on categorical distribution of students' general weighted average. Regarding "Dependent Learning Style" sub-factor, when we look at $F_{(4-252)}$=1,00, p=,406>,05, there is not a significant difference between tendency points based on categorical distribution of students' general weighted average. Regarding "Competitive Learning Style" sub-factor, when we look $F_{(4-252)}$=1,55, p=,187>,05, there is not a significant difference between tendency points based on categorical distribution of students' general weighted average. Respecting "Participant Learning Style" sub-factor, when we look $F_{(4-252)}$=7,21, p=,000<,05, there is a significant difference between tendency points based on categorical distribution of students' general weighted average. This significant difference stems from the fact that participant learning style tendency points ($\overline{X}$ =33,30) of the students with an average of 1,50-1,99, participant learning style tendency points ($\overline{X}$ =32,65) of the students with an average of 2,00-2,49 and participant learning style tendency points ($\overline{X}$ =34,83) of the students with an average of 2,50-2,99 are lower than participant learning style tendency points ($\overline{X}$ =38,07) of the students with an average of 3,00-3,49.

4.8. Eighth Sub-Problem: Is there significant difference among multiple intelligence tendency distribution of English language students based on gender?

Table 4.8. Independent-Samples T-Test Results of Difference between Multiple Intelligence Tendency Distribution of Students based on Gender

Multiple Intelligence Fields	Gender	N	$\overline{X}$	S	t	sd	p
Bodily Intelligence	Male	74	15,91	8,96	3,29	255	,001*
	Female	183	19,84	8,56			
Existentialist Intelligence	Male	74	17,35	9,69	2,71	255	,007*
	Female	183	13,81	9,41			
Interpersonal Intelligence	Male	74	14,24	6,62	1,32	255	,188
	Female	183	15,52	7,18			
Intrapersonal Intelligence	Male	74	12,66	4,80	1,56	255	,249
	Female	183	11,96	4,28			
Logical Intelligence	Male	74	16,47	6,57	3,50	255	,001*
	Female	183	13,42	6,24			
Musical Intelligence	Male	74	13,27	6,33	3,78	255	,000*
	Female	183	16,25	5,46			
Natural Intelligence	Male	74	15,73	4,49	,86	255	,389
	Female	183	15,19	4,54			
Verbal Intelligence	Male	74	12,07	5,29	1,99	255	,048*
	Female	183	10,81	4,28			
Visual Intelligence	Male	74	17,20	5,06	1,10	255	,272
	Female	183	18,01	5,38			

*p<,05

When Table 4.8 is reviewed, we can see if there is significant difference between multiple intelligence tendency distribution of students based on gender. Among sub-factors of multiple intelligence inventory, in “Kinaesthetic Intelligence” sub-factor, when we look at $t_{(255)}$=3,29, p=,001<,05, we can see there is a significant difference between tendency points based on gender. This significant difference stems from the fact that kinaesthetic intelligence tendency points ($\overline{X}$=15,97) of male students are lower than kinaesthetic intelligence tendency points ($\overline{X}$=19,84) of female students. This means that kinaesthetic intelligence levels of male students are more dominant. In “Existential Intelligence” sub-factor, when we look at $t_{(255)}$=2,71, p=,007<,05, we can see there is a significant difference between tendency points based on gender. This significant difference stems from the fact that existential intelligence tendency points ($\overline{X}$=17,35) of male students are higher than existential intelligence tendency points ($\overline{X}$=13,81) of female students. This means that

existential intelligence levels of female students are more dominant. In “Interpersonal Intelligence” sub-factor, when we look at $t_{(255)}$=1,32, p=,188>,05, we can see there is not a significant difference between tendency points based on gender. In “Intrapersonal Intelligence” sub-factor, when we look at $t_{(255)}$=1,56, p=,249>,05, we can see there is not a significant difference between tendency points based on gender. In “Logical Intelligence” sub-factor, when we look at $t_{(255)}$=3,50, p=,001<,05, we can see there is a significant difference between tendency points based on gender. This significant difference stems from the fact that logical intelligence tendency points ($\overline{X}$ =16,47) of male students are higher than logical intelligence tendency points ($\overline{X}$ =13,42) of female students. This means that logical intelligence levels of female students are more dominant. In “Musical Intelligence” sub-factor, when we look at $t_{(255)}$=3,78, p=,000<,05, we can see there is a significant difference between tendency points based on gender. This significant difference stems from the fact that musical intelligence tendency points ($\overline{X}$ =13,27) of male students are lower than musical intelligence tendency points ($\overline{X}$ =16,25) of female students. This means that musical intelligence levels of male students are more dominant. In “Naturalist Intelligence” sub-factor, when we look at $t_{(255)}$=,86, p=,389>,05, we can see there is not a slight difference between tendency points based on gender. In “Linguistic Intelligence” sub-factor, when we look at $t_{(255)}$=1,99, p=,048<,05 , we can see there is a significant difference between tendency points based on gender. This significant difference stems from the fact that linguistic intelligence tendency points ($\overline{X}$ =12,07) of male students are higher than linguistic intelligence tendency points ($\overline{X}$ =10,81) of female students. This means that linguistic intelligence levels of female students are more dominant. In “Spatial Intelligence” sub-factor, when we look at $t_{(255)}$=1,10, p=,272>,05 , we can see there is not a significant difference among tendency points based on gender.

4.9. Ninth Sub-Problem: Is there significant difference among multiple intelligence tendency distribution of English language students based on the type of university that they attend?

Table 4.9. Independent-Samples T-Test Result of Difference between Multiple Intelligence Tendency Distribution of Students based on the Type of University that They Attend

Multiple Intelligence Fields	University Type	N	$\overline{X}$	S	t	sd	p
Bodily Intelligence	Public	105	19,69	8,68	1,48	255	,141
	Vocational	152	18,03	8,92			
Existentialist Intelligence	Public	105	14,87	9,45	,05	255	,958
	Vocational	152	14,80	9,75			
Interpersonal Intelligence	Public	105	18,31	5,70	6,45	255	,000*
	Vocational	152	12,97	7,05			
Intrapersonal Intelligence	Public	105	9,76	3,70	8,04	255	,000*
	Vocational	152	13,82	4,15			
Logical Intelligence	Public	105	13,37	6,77	1,91	255	,057
	Vocational	152	14,93	6,21			
Musical Intelligence	Public	105	14,41	6,30	2,25	255	,025*
	Vocational	152	16,07	5,47			
Natural Intelligence	Public	105	14,53	4,54	2,42	255	,016*
	Vocational	152	15,91	4,44			
Verbal Intelligence	Public	105	12,03	4,17	2,50	255	,013*
	Vocational	152	10,58	4,83			
Visual Intelligence	Public	105	17,71	5,12	,15	255	,880
	Vocational	152	17,82	5,43			

*p<,05

When Table 4.9 is reviewed, we can see if there is a significant difference between multiple intelligence tendency distribution based on the type of university that the students attend. Among sub-factors of multiple intelligence inventory, in “Kinaesthetic Intelligence” sub-factor, when we look at $t_{(255)}$=1,48, p=,141>,05, we can see there is a not significant difference between tendency points based on the type of university that the students attend. In “Existential Intelligence” sub-factor, when we look at $t_{(255)}$=,05, p=,958>,05, we can see there is a not significant difference between tendency points based on the type of university that the students attend. In “Interpersonal Intelligence” sub-factor, when we look at $t_{(255)}$=6,45, p=,000<,05, we can see there is a significant difference between tendency points based on the type of university that the students attend. This significant difference stems from the fact that interpersonal intelligence tendency points ($\overline{X}$ =18,31) of the students who attend to public universities are higher than interpersonal intelligence tendency points ($\overline{X}$ =12,97) of the students who attend to vocational universities. This means that interpersonal intelligence levels of the students who attend to vocational universities are more dominant.

In “Intrapersonal Intelligence” sub-factor, when we look at $t_{(255)}$=8,04, p=,000<,05, we can see there is a significant difference between tendency points based on the type of university that the students attend. This significant difference stems from the fact that intrapersonal intelligence tendency points ($\overline{X}$ =9,76) of the students who attend to public universities are lower than intrapersonal intelligence tendency points ($\overline{X}$ =13,82) of the students who attend to vocational universities. This means that intrapersonal intelligence levels of the students who attend to public universities are more dominant. In “Logical Intelligence” sub-factor, when we look at $t_{(255)}$=1,91, p=,057>,05, we can see there is a not significant difference between tendency points based on the type of university that the students attend. In “Musical Intelligence” sub-factor, when we look at $t_{(255)}$=2,25, p=,025<,05, we can see there is a significant difference between tendency points based on the type of university that the students attend. This significant difference stems from the fact that musical intelligence tendency points ($\overline{X}$ =14,41) of the students who attend to public universities are lower than musical intelligence tendency points ($\overline{X}$ =16,07) of the students who attend to vocational universities. This means that musical intelligence levels of the students who attend to public universities are more dominant. In “Naturalist Intelligence” sub-factor, when we look at $t_{(255)}$=2,42, p=,016<,05, we can see there is a significant difference between tendency points based on the type of university that the students attend. This significant difference stems from the fact that naturalistic intelligence tendency points ($\overline{X}$ =14,53) of the students who attend to public universities are lower than naturalistic intelligence tendency points ($\overline{X}$ =15,91) of the students who attend to vocational universities. This means that naturalist intelligence levels of the students who attend to public universities are more dominant. In “Linguistic Intelligence” sub-factor, when we look at $t_{(255)}$=2,50, p=,013<,05, we can see there is a significant difference between tendency points based on the type of university that the students attend. This significant difference stems from the fact that linguistic intelligence tendency points ($\overline{X}$ =12,03) of the students who attend to public universities are higher than linguistic intelligence tendency points ($\overline{X}$ =10,58) of the students who attend to vocational universities. This means that linguistic intelligence levels of the students who attend to vocational universities are more dominant. In “Spatial Intelligence” sub-factor, when we look at $t_{(255)}$=,15, p=,880>,05, we can see there is not a significant difference between tendency points based on the type of university that the students attend.

4.10. Tenth Sub-Problem: Is there significant difference among multiple intelligence tendency distribution of English language students based on age?

Table 4.10. One-Way ANOVA Results of Difference between Multiple Intelligence Tendency Distribution of Students based on Age

Multiple Intelligence Fields	Age	N	$\overline{X}$	S	F(4-252)	p	Post Hoc (Tukey)
Bodily Intelligence	19and below	47	21,21	8,87	3,43	,009*	1>4, 2>4
	20	45	21,36	7,80			
	21	57	17,37	9,17			
	22	62	16,47	9,24			
	23and above	46	18,24	7,82			
Existentialist Intelligence	19and below	47	10,62	8,19	6,24	,000*	1<3, 1<4, 2<4
	20	45	12,07	9,03			
	21	57	16,51	9,78			
	22	62	18,40	9,32			
	23and above	46	14,93	9,65			
Interpersonal Intelligence	19and below	47	14,11	7,16	2,85	,024*	3>5
	20	45	15,33	6,70			
	21	57	16,65	6,39			
	22	62	16,29	7,34			
	23and above	46	12,65	7,01			
Intrapersonal Intelligence	19and below	47	13,13	5,22	,79	,530	
	20	45	12,07	4,06			
	21	57	11,88	4,04			
	22	62	11,69	4,63			
	23and above	46	12,24	4,15			
Logical Intelligence	19and below	47	11,70	5,69	5,53	,000*	1<3, 1<4 2<3, 2<4
	20	45	12,02	6,11			
	21	57	15,63	6,28			
	22	62	15,97	6,59			
	23and above	46	15,26	6,47			
Musical Intelligence	19and below	47	16,72	5,31	3,95	,004*	2>4
	20	45	17,51	5,19			
	21	57	14,44	6,20			
	22	62	13,68	6,03			
	23and above	46	15,46	5,65			
Natural Intelligence	19and below	47	16,13	4,31	3,54	,008*	5>3
	20	45	14,82	3,79			
	21	57	14,18	4,99			
	22	62	14,89	5,09			
	23and above	46	17,13	3,36			
Verbal Intelligence	19and below	47	12,32	4,80	1,90	,112	
	20	45	10,73	4,18			
	21	57	11,89	4,51			
	22	62	10,68	4,28			
	23and above	46	10,20	5,20			
visual Intelligence	19and below	47	19,00	5,02	2,74	,029*	1>3
	20	45	18,44	5,35			
	21	57	16,49	5,68			
	22	62	16,76	5,10			
	23and above	46	18,83	4,88			

*p<,05 Categories: 19 and below=1; 20=2; 21=3; 22=4; 23 and above=5

When Table 4.10 is reviewed, we can see if there is a significant difference between multiple intelligence types of students based on age. Regarding "Kinaesthetic Intelligence" sub-factor, when we look at $F_{(4-252)}$=3,43, p=,009<,05, we can see there is a significant difference between tendency points of students based on age. This significant difference stems from the fact that kinaesthetic intelligence tendency points ($\overline{X}$ =16,47) of the students

who are 22 are lower than kinaesthetic intelligence tendency points ($\overline{X}$ =21,36) of the students who are 20 and kinaesthetic intelligence tendency points ($\overline{X}$ =21,21) of the students who are 19 and younger. Regarding "Existential Intelligence" sub-factor, when we look at $F_{(4-252)}$=6,24, p=,000<,05, we can see there is a significant difference between tendency points of students based on age. This significant difference stems from the fact that existential intelligence tendency points ($\overline{X}$ =10,62) of the students who are 19 and younger and existential intelligence tendency points ($\overline{X}$ =12,07) of the students who are 20 are lower than existential intelligence tendency points ($\overline{X}$ =18,40) of the students who are 22, and also the fact that existential intelligence tendency points ($\overline{X}$ =10,62) of the students who are 19 and younger are lower than existential intelligence tendency points ($\overline{X}$ =16,51) of the students who are 21. Regarding "Interpersonal Intelligence" sub-factor, when we look at $F_{(4-252)}$=2,85, p=,024<,05, we can see there is a significant difference between tendency points of students based on age. This significant difference stems from the fact that interpersonal intelligence tendency points ($\overline{X}$ =16,65) of the students who are 21 are higher than interpersonal intelligence tendency points ($\overline{X}$ =12,65) of the students who are 23 and older. Regarding "Intrapersonal Intelligence" sub-factor, when we look at $F_{(4-252)}$=,79, p=,530>,05, we can see there is not a significant difference between tendency points of students based on age. In regard to "Logical Intelligence" sub-factor, when we look at $F_{(4-252)}$=5,53, p=,000<,05, we can see there is a significant difference between tendency points of students based on age. This significant difference stems from the fact that logical intelligence tendency points ($\overline{X}$ =11,70) of the students who are 19 and younger and logical intelligence tendency points ($\overline{X}$ =12,02) of the students who are 20 are lower than logical intelligence tendency points ($\overline{X}$ =15,63) of the students who are 21 and logical intelligence tendency points ($\overline{X}$ =15,97) of the students who are 22. Regarding "Musical Intelligence" sub-factor, when we look at $F_{(4-252)}$=3,95, p=,004<,05, we can see there is a significant difference between tendency points of students based on age. This significant difference stems from the fact that musical intelligence tendency points ($\overline{X}$ =17,51) of the students who are 20 are higher than musical intelligence tendency points ($\overline{X}$ =13,68) of the students who are 22. In relation to "Naturalist Intelligence" sub-factor, when we look at $F_{(4-252)}$=3,54, p=,008<,05, we can see there is a significant difference between tendency points of students

based on age. This significant difference stems from the fact that naturalist intelligence tendency points ($\overline{X}$ =17,13) of the students who are 23 and older are higher than naturalist intelligence tendency points ($\overline{X}$ =14,18) of the students who are 21. Regarding "Linguistic Intelligence" sub-factor, when we look at $F_{(4-252)}$=1,90, p=,112>,05, we can see there is not a significant difference between tendency points of students based on age. Regarding "Spatial Intelligence" sub-factor, when we look at $F_{(4-252)}$=3,74, p=,029<,05, we can see there is a significant difference among tendency points of students based on age. This significant difference stems from the fact that spatial intelligence tendency points ($\overline{X}$ =19,00) of the students who are 19 and younger are higher than spatial intelligence tendency points ($\overline{X}$ =16,49) of the students who are 21.

4.11. Eleventh Sub-Problem: Is there significant difference among multiple intelligence tendencies of English language students based on class level?

Table 4.11. One-Way ANOVA Results of Difference between Multiple Intelligence Tendency Distribution of Students based on Class Level

Multiple Intelligence Fields	Class Level	N	$\overline{X}$	S	F(3-253)	p	Post Hoc (Tukey)
Bodily Intelligence	1	78	20,50	9,66	3,49	,016*	2>4
	2	60	18,62	8,34			
	3	74	16,16	7,90			
	4	45	19,91	8,76			
Existentialist Intelligence	1	78	11,23	9,14	7,74	,000*	2<3, 2<4
	2	60	16,13	8,93			
	3	74	18,18	9,13			
	4	45	13,82	10,05			
Interpersonal Intelligence	1	78	15,21	6,80	,73	,534	
	2	60	14,97	6,96			
	3	74	14,47	7,25			
	4	45	16,42	7,23			
Intrapersonal Intelligence	1	78	13,55	4,84	4,49	,004*	2>3, 2>5
	2	60	11,03	4,10			
	3	74	12,08	3,93			
	4	45	11,38	4,43			
Logical Intelligence	1	78	11,45	5,92	10,04	,000*	2<3, 2<4
	2	60	15,50	5,82			
	3	74	16,65	6,56			
	4	45	13,76	6,32			
Musical Intelligence	1	78	16,90	4,98	2,68	,047*	2>4
	2	60	14,83	6,42			
	3	74	14,39	5,44			
	4	45	15,18	6,80			
Natural Intelligence	1	78	15,13	4,31	1,26	,289	
	2	60	15,03	4,52			
	3	74	15,11	4,86			
	4	45	16,53	4,26			
Verbal Intelligence	1	78	12,54	4,16	3,86	,010*	2>4
	2	60	10,55	4,68			
	3	74	10,20	4,71			
	4	45	11,22	4,71			
Visual Intelligence	1	78	18,33	5,25	,90	,442	
	2	60	18,00	4,56			
	3	74	17,62	6,06			
	4	45	16,76	4,94			

*p<,05

When Table 4.11 is reviewed, we can see if there is significant difference between multiple intelligence types of students based on class level. Regarding "Kinaesthetic Intelligence" sub-factor, when we look at $F_{(3-253)}$=3,49, p=,016<,05, we can see there is a significant difference between tendency points of students based on class levels. This significant difference stems from the fact that kinaesthetic intelligence tendency points ($\overline{X}$ =20,50) of sophomore student are higher than the kinaesthetic intelligence tendency points

($\overline{X}$ =16,16) of the senior students. Regarding "Existential Intelligence" sub-factor, when we look at $F_{(3-253)}$=7,74, p=,000<,05, we can see there is a significant difference between tendency points of students based on class levels. This significant difference stems from the fact that existential intelligence tendency points ($\overline{X}$ =11,23) of sophomore students are lower than the existential intelligence tendency points ($\overline{X}$ =16,13) of junior students and existential intelligence tendency points ($\overline{X}$ =18,18) of senior students. Regarding "Interpersonal Intelligence" sub-factor, when we look at $F_{(3-253)}$=,73, p=,534>,05, we can see there is not a significant difference among tendency points of students based on class levels. Regarding "Intrapersonal Intelligence" sub-factor, when we look at $F_{(3-253)}$=4,49, p=,004<,05, we can see there is a significant difference between tendency points of students based on class levels. This significant difference stems from the fact that intrapersonal intelligence tendency ($\overline{X}$ =13,55) of sophomore students are higher than the intrapersonal intelligence tendency points ($\overline{X}$ =11,03) of junior students and intrapersonal intelligence tendency points ($\overline{X}$ =11,38) of senior students. Regarding "Logical Intelligence" sub-factor, when we look at $F_{(3-253)}$=10,04, p=,000<,05, we can see there is a significant difference between tendency points of students based on class levels. This significant difference stems from the fact that logical intelligence tendency ($\overline{X}$ =11,45) of sophomore students are lower than the logical intelligence tendency points ($\overline{X}$ =15,50) of junior students and logical intelligence tendency points ($\overline{X}$ =16,65) of senior students. Regarding "Musical Intelligence" sub-factor, when we look at $F_{(3-253)}$=2,68, p=,047<,05, we can see there is a significant difference between tendency points of students based on class levels. This significant difference stems from the fact that musical intelligence tendency ($\overline{X}$ =16,90) of sophomore students are higher than the musical intelligence tendency points ($\overline{X}$ =14,39) of senior students. Regarding "Naturalist Intelligence" sub-factor, when we look at $F_{(3-253)}$=1,26, p=,289>,05, we can see there is not a significant difference between tendency points of students based on class levels. Regarding "Linguistic Intelligence" sub-factor, when we look at $F_{(3-253)}$=3,86, p=,010<,05, we can see there is a significant difference between tendency points of students based on class levels. This significant difference stems from the fact that linguistic intelligence tendency ($\overline{X}$ =12,54) of sophomore students are higher than the linguistic intelligence tendency points ($\overline{X}$ =10,20) of senior students.

Regarding “Spatial Intelligence” sub-factor, when we look at $F_{(3-253)}$=,90, p=,442>,05, we can see there is not a significant difference between tendency points of students based on class levels.

4.12. Twelfth Sub-Problem: Is there significant difference among multiple intelligence tendency distribution of English language students based on categorical distribution of their general weighted average?

Table 4.12. One-Way ANOVA Results of Difference between Multiple Intelligence Tendency Distribution of Students based on Categorical Distribution of Their General Weighted Average

Multiple Intelligence Fields	GPA	N	$\overline{X}$	S	F(4-252)	p	Post Hoc (Tukey)
Bodily Intelligence	1,50-1,99	30	7,37	6,12	72,44	,000*	1<2, 1<3, 1<4, 1<5, 2<3, 2<4, 2<5, 3<4, 3<5
	2,00-2,49	55	11,82	6,80			
	2,50-2,99	72	19,79	7,71			
	3,00-3,49	68	25,56	2,89			
	3,50-4,00	32	24,19	5,54			
Existentialist Intelligence	1,50-1,99	30	24,80	4,20	75,52	,000*	1>3, 1>4, 1>5, 2>3, 2>4, 2>5, 3>4, 3>5
	2,00-2,49	55	23,40	5,39			
	2,50-2,99	72	14,75	9,25			
	3,00-3,49	68	6,91	4,45			
	3,50-4,00	32	7,75	6,41			
Interpersonal Intelligence	1,50-1,99	30	15,53	6,82	2,59	,038*	2<5
	2,00-2,49	55	13,73	7,79			
	2,50-2,99	72	13,86	7,12			
	3,00-3,49	68	16,56	6,56			
	3,50-4,00	32	17,16	5,87			
Intrapersonal Intelligence	1,50-1,99	30	17,27	3,53	15,41	,000*	1>2, 1>3, 1>4, 1>5
	2,00-2,49	55	12,65	3,83			
	2,50-2,99	72	11,25	4,26			
	3,00-3,49	68	10,88	4,25			
	3,50-4,00	32	11,28	3,59			
Logical Intelligence	1,50-1,99	30	21,23	2,57	94,67	,000*	1>3, 1>4, 1>5, 2>3, 2>4, 2>5, 3>4, 3>5
	2,00-2,49	55	20,15	4,03			
	2,50-2,99	72	14,67	5,76			
	3,00-3,49	68	8,97	2,69			
	3,50-4,00	32	8,22	3,49			
Musical Intelligence	1,50-1,99	30	10,83	3,94	31,26	,000*	1<3, 1<4, 1<5, 2<3, 2<4, 2<5,
	2,00-2,49	55	11,53	5,07			
	2,50-2,99	72	14,97	6,06			
	3,00-3,49	68	19,51	3,56			
	3,50-4,00	32	18,50	4,41			
Natural Intelligence	1,50-1,99	30	11,70	4,53	8,17	,000*	1<2, 1<3, 1<4, 1<5
	2,00-2,49	55	14,71	5,19			
	2,50-2,99	72	15,53	4,64			
	3,00-3,49	68	16,82	3,44			
	3,50-4,00	32	16,31	2,93			
Verbal Intelligence	1,50-1,99	30	13,00	5,00	1,97	,100	
	2,00-2,49	55	10,56	5,24			
	2,50-2,99	72	11,50	4,73			
	3,00-3,49	68	10,44	3,34			
	3,50-4,00	32	11,31	4,92			
Visual Intelligence	1,50-1,99	30	13,27	5,55	10,42	,000*	1<3, 1<4, 1<5, 2<4, 2<5
	2,00-2,49	55	16,33	5,88			
	2,50-2,99	72	18,69	4,55			
	3,00-3,49	68	19,01	4,64			
	3,50-4,00	32	19,78	3,99			

*p<,05 Categories: 1,50-1,99=1; 2,00-2,49=2; 2,50-2,99=3; 3,00-3,49=4; 3,50-4,00=5

When Table 4.12 is reviewed, we can see if there is a significant difference between multiple intelligence types of students based on their general weighted average. Regarding "Kinaesthetic Intelligence" sub-factor, when we look at $F_{(4-252)}$=72,44, p=,000<,05, we see there is a significant difference between tendency points of the students based on categorical distribution of their general weighted average. This significant difference steams from the fact that while general weighted averages of students increase, their kinaesthetic intelligence tendencies decrease. Regarding "Existential Intelligence" sub-factor, when we look at $F_{(4-252)}$=75,52, p=,000<,05, we see there is a significant difference between tendency points of the students based on categorical distribution of their general weighted average. This significant difference steams from the fact that while general weighted averages of students increase, their existential intelligence tendencies also increase. Regarding "Interpersonal Intelligence" sub-factor, when we look at $F_{(4-252)}$=2,59, p=,038<,05, we see there is a significant difference between tendency points of the students based on categorical distribution of their general weighted average. This significant difference steams from the fact that interpersonal intelligence tendency points ($\overline{X}$ =13,73) of the students with an average of 2,00-2,49 are lower than interpersonal intelligence tendency points ($\overline{X}$ =17,16) of the students with an average of 3,50-4,00. Regarding "Intrapersonal Intelligence" sub-factor, when we look at $F_{(4-252)}$=15,41, p=,000<,05, we see there is a significant difference between tendency points of the students based on categorical distribution of their general weighted average. This significant difference steams from the fact that intrapersonal intelligence tendency points of the students with an average of 1,50-1,99 are higher than the intrapersonal intelligence tendency points of the students with other averages. Regarding "Logical Intelligence" sub-factor, when we look at $F_{(4-252)}$=94,67, p=,000<,05, we see there is a significant difference between tendency points of the students based on categorical distribution of their general weighted average. This significant difference steams from the fact that while general weighted averages of students increase, their logical intelligence tendencies also increase, meaning their tendencies are more dominant. Regarding "Musical Intelligence" sub-factor, when we look at $F_{(4-252)}$=31,26, p=,000<,05, we see there is a significant difference between tendency points of the students based on categorical distribution of their general weighted average. This significant difference steams from the fact that while general weighted averages of students increase, their musical intelligence tendencies decrease, meaning their tendencies are less dominant. Regarding "Naturalist Intelligence" sub-factor, when we look at $F_{(4-252)}$=8,71, p=,000<,05, we see there is a

significant difference between tendency points of the students based on categorical distribution of their general weighted average. This significant difference steams from the fact that naturalist intelligence tendency points of the students with an average of 1,50-1,99 are lower than the naturalist intelligence tendency points of the students with other averages. Regarding "Linguistic Intelligence" sub-factor, when we look at $F_{(4-252)}$=1,97, p=,100>,05, we see there is not a significant difference between tendency points of the students based on categorical distribution of their general weighted average. Regarding "Spatial Intelligence" sub-factor, when we look at $F_{(4-252)}$=10,42, p=,000<,05, we see there is a significant difference between tendency points of the students based on categorical distribution of their general weighted average. This significant difference steams from the fact that while general weighted averages of students increase, their spatial intelligence tendencies decrease, meaning their tendencies are less dominant.

4.13. Thirteenth Sub-Problem: Is there a relationship among multiple intelligence tendency distribution of English language students and general weighted average?

Table 4.13. Pearson Co-relation Analysis Results of Relationship between General Weighted Averages of Students and Multiple Intelligence Types

		CGPA	Determination Coefficient (r^2)
Bodily Intelligence	r	0,71*	0,50
	p	,000	
Existentialist Intelligence	r	-0,71*	0,50
	p	,000	
Interpersonal Intelligence	r	0,15*	0,02
	p	,010	
Intrapersonal Intelligence	r	-0,34*	0,12
	p	,000	
Logical Intelligence	r	-0,77*	0,59
	p	,000	
Musical Intelligence	r	0,55*	0,30
	p	,000	
Natural Intelligence	r	,30*	0,09
	p	,000	
Verbal Intelligence	r	-,08	
	p	,098	
Visual Intelligence	r	,33*	0,11
	p	,000	

**p<,05*

When Table 4.13 is reviewed, we can see the determination coefficients which were calculated to determine if there is a relationship between multiple intelligence types of students and general weighted averages, and which intelligence type how much affects averages of students. When we look at r=0,71, p=,000<,05, we see a high level positive

significant relationship between kinaesthetic intelligence tendency points of students and general weighted averages. While kinaesthetic intelligence tendency points increase meaning kinaesthetic intelligence dominance of students decrease, averages increase. Kinaesthetic intelligence types of students represent 50% of students' general averages. When we look at r=-0,71, p=,000<,05, we see a high level negative significant relationship between existential intelligence tendency points of students and general weighted averages. While existential intelligence tendency points decrease meaning existential intelligence dominance of students increase, averages increase. Existential intelligence types of students represent 50% of students' general averages. When we look at r=0,15, p=,010<,05, we see a low level positive significant relationship between interpersonal intelligence tendency points of students and general weighted averages. While interpersonal intelligence tendency points increase meaning interpersonal intelligence dominance of students decrease, averages increase. Interpersonal intelligence types of students represent 2% of students' general averages. When we look at r=-0,34, p=,000<,05, we see an above low level negative significant relationship between intrapersonal intelligence tendency points of students and general weighted averages. While intrapersonal intelligence tendency points decrease meaning intrapersonal intelligence dominance of students increase, averages increase. Intrapersonal intelligence types of students represent 12% of students' general averages. When we look at r=-0,77, p=,000<,05, we see a high level negative significant relationship between logical intelligence tendency points of students and general weighted averages. While logical intelligence tendency points decrease meaning logical intelligence dominance of students increase, averages increase. Logical intelligence types of students represent 59% of students' general averages. When we look at r=0,55, p=,000<,05, we see a medium level positive significant relationship between musical intelligence tendency points of students and general weighted averages. While musical intelligence tendency points increase meaning musical intelligence dominance of students decrease, averages increase. Musical intelligence types of students represent 30% of students' general averages. When we look at r=-0,08, p=,098>,05, there is not a statistically significant relationship between linguistic intelligence tendency points of students and general weighted averages. When we look at r=0,33, p=,000<,05, we see an above low level positive significant relationship between spatial intelligence tendency points of students and general weighted averages. While spatial intelligence tendency points increase meaning spatial intelligence dominance of students

decrease, averages increase. Spatial intelligence types of students represent 11% of students' general averages.

4.14. Fourteenth Sub-Problem: Is there a relationship among learning style points with regards to social learning preferences of English language students and general weighted average?

Table 4.14. Pearson Co-relation Analysis Results of Relationship between General Weighted Average of Students and Learning Style Tendency Points with regards to Social Learning Preferences

Learning Styles		CGPA	Determination Coefficient (r^2)
Independent	r	,23*	0,05
	p	,000	
Avoidant	r	-,27*	0,07
	p	,000	
Collaborative	r	-,06	
	p	,181	
Dependent	r	-,04	
	p	,274	
Competitive	r	,08	
	p	,101	
Participant	r	,24*	0,06
	p	,000	

**p<,05*

When Table 4.14 is reviewed, we can see the determination coefficients which were calculated to determine if there is a relationship between learning style tendency points with regards to social learning preferences of students and general weighted averages, and which learning style type how much affects averages of students. When we look at r=0,23, p=,000<,05, we see a low level positive significant relationship between independent learning style tendency points of students and general weighted averages. While independent learning style tendency points increase, averages of students also increase. Independent learning style tendency points of students represents 5% of general averages. When we look at r=-0,27, p=,000<,05, we see a low level negative significant relationship between avoidant learning style tendency points of students and general weighted averages. While avoidant learning style tendency points increase, averages of students decrease. Avoidant learning style tendency points of students explains 7% of general averages. When we look at r=-0,06, p=,181>,05, we see there is not a significant relationship between collaborative learning style tendency points of students and general weighted averages. When we look at r=-0,04, p=,274>,05, we see there is not a significant relationship between dependent learning style

tendency points of students and general weighted averages. When we look at r=-0,08, p=,101>,05, we see there is not a significant relationship between competitive learning style tendency points of students and general weighted averages. When we look at r=0,24, p=,000<,05, we see a low level positive significant relationship between participant learning style tendency points of students and general weighted averages. While participant learning style tendency points increase, averages of students also increase. Participant learning style tendency points of students explains 6% of general averages.

Considering all the findings, the following chapter focuses on the results, discussion and further implications based on the outcomes of this study which involves various research questions and sub-problems.

CHAPTER V
RESULTS AND DISCUSSIONS

5.1. Results

The results of the study are relatively given for each sub-problem.

5.1.1. Results of the first sub-problem

When the distribution of students' independent learning style was examined, it was concluded that the ratio of studying individually is medium level. When the distribution of the students regarding avoidant learning style was examined, it was determined that the rates of indifference towards the course are medium level. When the distribution of the students regarding cooperative learning style was examined, it was concluded that the ratio of students' enthusiasm to learn, responsibility for their own learning was found to be high level. When the distribution of the students' dependent learning style was examined, it was found that the ratio of students' curiosity and enthusiasm of learning required from them were medium level. When the distribution of students regarding their competitive learning style was examined, it is concluded that the ratio of love of compete with other student in the classroom and be the centre of the attention was high level. When the distribution of the students regarding their participant learning style, it was concluded that the ratio of likes of sharing their ideas and abilities with other students and the cooperation with their teacher was medium. It was concluded that students, who is studying English language teaching, had a high level of competitive and cooperative learning styles and the other learning styles were medium level.

5.1.2. Results of the second sub-problem

When the distribution of multiple intelligence tendencies of students, who is studying English language teaching, was examined, it was found out that they tend to the most existential intelligence type. In other words, it was concluded that the students who have the ability to think about the questions and phenomena beyond the emotional knowledge with the tendency to existential intelligence type outnumbered. When the distribution of students' tendency to multiple intelligence types was examined, it was found that they tend to have the least visual intelligence types. It can be concluded that this may be due to the fact that the applied student population is not a department of visual arts but a department of English language teaching. At the same time, it has been concluded that the number of students whose features such as being able to fully perceive the visual elements and changing things into different form is dominant was low.

5.1.3. Results of the third sub-problem

It has been found that there are differences between some learning styles' tendency points related to social learning choices of genders of students who learn English language. There is a significant difference in favour of male students who has avoidant learning style. In other words, it is concluded that male students are more uninterested and bored in the classroom. In addition to this, there is a difference in favour of female students who has dependent learning style. Namely, it is concluded that female students are not interested in obtaining the information and they tend to learn what is asked from them. Furthermore, there is a significant difference in favour of female students, who has a collaborative learning style. It is found that these types of female students like to share their abilities and opinions to the other students in the class.

5.1.4. Results of the forth sub-problem

It has been identified that there is a significant difference between only avoidant styles' tendency points related to social learning choices of university types of students who are studying English language teaching. It is concluded that there is no statistically significant difference between tendency scores of the students according to their type of university in other learning styles. It is concluded that there is a significant difference in terms of avoidant learning style in favour of the students who are studying in public university. These kinds of students are not interested towards the lessons and they frequently get bored in the classroom environment.

5.1.5. Results of the fifth sub-problem

It has been noticed that there is a significant difference between only dependent styles' tendency points related to social learning choices of ages of students who are studying English language teaching. It is concluded that there is no statistically significant difference between tendency scores of the students according to their age in other learning styles. There is a significant difference in favour of 20-year-old students regarding the dependent learning style. Namely, it is concluded that 20-year-old student had higher levels of being less interested in obtaining information and learning only what is expected from them.

5.1.6. Results of the sixth sub-problem

It has been seen that there is a significant difference between only dependent styles' tendency points related to social learning choices of classes of students who are studying English language teaching. It is concluded that there is no statistically significant difference between tendency scores of the students according to their classes in other learning styles.

There is a significant difference in favour of junior students regarding the dependent learning style. Namely, it is concluded that junior students have higher levels of being less interested in obtaining information and learning only what is expected from them.

5.1.7. Results of the seventh sub-problem

According to the categorical distribution of the cumulative grade point average of the students who are studying English language teaching, it has been found that there is a significant difference between independent, avoidant, participant learning style tendency scores related to social learning choices. It is concluded that there is no statistically significant difference between tendency scores of the students according to their cumulative grade point average in other learning styles. There is a significant difference out of countenance of students who have an average of 2,00-2,49 on independent learning style. In other words, it is concluded that the students who have an average of 2,00-2,49 have lower levels of self-learner students. There is a significant difference out of countenance of students who have an average of 3,00-3,49 on avoidant learning style. In other words, it is concluded that the students who have an average of 3,00-3,49 have a lower level of uninterested and bored from the education environment. There is a significant difference in favor of students who have an average of 3,00-3,49 on participant learning style. In other words, it is concluded that the students who have an average of 3,00-3,49 have a higher level of liking to share their ideas and abilities.

5.1.8. Results of the eighth sub-problem

According to their gender of the students who are studying English language teaching, it has been noticed that there is a statistically significant difference between multiple intelligence areas in terms of physical, existential, logical, musical and verbal intelligences. Male students have lower scores in physical and musical intelligences. Namely, it is concluded that there is a significant difference because male students are more dominant in these areas of intelligence. Female students have lower scores in existential, logical and verbal intelligences. Namely, it is concluded that there is a significant different because female students are more dominant in these areas of intelligence.

5.1.9. Results of the ninth sub-problem

According to their university type of the students who are studying English language teaching, it has been marked that there is a statistically significant difference between multiple intelligence areas in terms of interpersonal, internal, musical, naturalistic and verbal intelligences. In the field of interpersonal and verbal intelligences, the scores of the students

who are studying English language teaching at the vocational university are lower. It is concluded that there is a significant difference because the students in the vocational university are more dominant in these areas of intelligence. In the field of internal, musical and natural intelligences, students at the public university have lower scores. In other words, it is found that there is a significant difference because the students in the state university are more dominant in these areas of intelligence.

5.1.10. Results of the tenth sub-problem

According to their age of the students who are studying English language teaching, it has been noticed that there is a statistically significant difference between multiple intelligence areas in terms of physical, existential, interpersonal, logical, musical, naturalistic and visual intelligences. In the field of physical intelligence, it is concluded that the physical intelligence tendency of the younger students is less dominant. In the field of existential intelligence, it was determined that the older student's tendency towards existential intelligence was more dominant. In the field of interpersonal intelligence, it is concluded that the students who are 23 or older are more dominant. It is concluded that the students who are younger tend to be more dominant in logical intelligence. It is found out that students aged 22 tend to be more dominant in musical intelligence field. It is concluded that the students who are 21 years old tend to be more dominant in musical intelligence fields. It is found that the students who are 21 years old in the field of visual intelligence tend to be more dominant.

5.1.11. Results of the eleventh sub-problem

According to their class of the students who are studying English language teaching, it has been found out that there is a statistically significant difference between multiple intelligence areas in terms of physical, existential, internal, logical, musical and verbal intelligences. In the field of physical intelligence, it is concluded that the physical intelligence tendency of students with lower class level was less dominant. Existential intelligence tendencies of the sophomore students in the field of existential intelligence are found to be more dominant. It is found that the sophomore students in the field of internal intelligence are less dominant in their internal intelligence orientations. It is found that the logical intelligence tendency of sophomore students in the field of logical intelligence is more dominant. It was found that the musical intelligence tendency of senior students was more dominant in the field of musical intelligence. It was concluded that verbal intelligence tendency of senior students in the field of verbal intelligence is more dominant.

5.1.12. Results of twelfth sub-problem

According to the categorical cumulative grade point average of the students who are studying English language teaching, it has been identified that there is a statistically significant difference between multiple intelligence areas in terms of physical, existential, interpersonal, internal logical, musical, natural and visual intelligences. Only in the field of verbal intelligence, it was found that there is no significant difference in the categorical distribution of the students' cumulative grade point average. In the field of physical intelligence, it was concluded that as students' grade point average increased, their physical intelligence tendency decreased and they were less dominant. As students' GPAs increase in the field of existential intelligence, it was observed that the tendencies of existential intelligence increase and they are more dominant. It is concluded that students with an average of 2,00-2,49 in the field of interpersonal intelligence tend to be more dominant. In the field of internal intelligence, it is concluded that the students who have an average 1,50-1,99 hve less dominant. In the field of logical intelligence, it was concluded that the higher the students' GPAs, the more the logical intelligence tendencies increase. In the field of musical intelligence, it is concluded that the musical intelligence tendency decreases as students' GPA increase and it is less dominant. It was concluded that the students who had an average of 1,50-1,99 in the field of natural intelligence are more dominant. In the field of visual intelligence, it was concluded that visual intelligence tendencies decrease as students' GPA increase and it is less dominant.

5.1.13. Results of thirteenth sub-problem

When examining whether there is a relationship between multiple intelligence fields and cumulative grade point average of students who are studying English language teaching, it is concluded that there is no relationship between the scores of verbal intelligence and students. Additionally, there is a significant relationship between the other intelligence fields and grade averages. It is concluded that the average of students who have dominant physical intelligence tendency is low. It was found that the average grade of students with dominant existentialist intelligence tendency is high. It is concluded that the average grade of the students who have dominant logical intelligence field is also high. it was observed that the students who have a predominance in the field of musical intelligence have a low GPA. It can be concluded that average GPA of the students whose natural and visual intelligence fields are dominant is slightly lower. It was found that the average grade of the students whose internal intelligence field is dominant is slightly higher.

5.1.14. Results of fourteenth sub-problem

When examined whether there is a relationship between learning styles tendency scores and cumulative grade point averages related to social learning preferences of the students, studying English language teaching, there is a significant relationship between independent, avoidant, participant learning styles and cumulative grade point averages. It is determined that there is no significant relationship between the students' tendency towards cooperative, dependent and competitive learning styles and their cumulative grade point averages. It is determined that students' independent learning style tendencies and participant learning style tendencies have a positive effect on their GPA. It was concluded that the students' avoidant learning style tendencies negatively affected on their cumulative grade point averages.

5.2 Discussion

In this study, it was examined that the distribution of cooperative and competitive learning styles of the students, who are studying English language teaching, is significantly higher than those with other learning styles. Cooperative learning style is expected to be high for these students and it is a result which is in consistence with the literature. The high level of competitive learning can be thought to mean that these students prefer to learn in a collaborative way while they prefer to learn in a competitive group.

It is concluded that the students, who are studying English language teaching, have a higher tendency for existential intelligence in multiple intelligence fields. Since the theoretical knowledge about this type of intelligence is not fully constructed, it can be evaluated as a contribution to the literature.

When the students' learning styles and gender are compared, it was found that there was a significant difference between male students "avoidant learning and female students "participant learning" styles. This means that male students are indifferent to the classroom and bored with their environment, and female students like to share their ideas and talents.

In the study, a significant difference was found between the learning styles of the students at public and vocational universities in favour of "avoidant learning style". This means that the students who are studying at public university are more indifferent and bored in the classroom. This can be explained by the fact that the teaching and learning methods used in the vocational universities are more student-centred than the public universities.

20-year-old students showed a significant difference in "dependent learning style". Accordingly, students at this age are not interested in obtaining information and apply as

they are thought, and this situation is in consistent with the attitudes and behaviours of the students at this age. At the class level, this applies to senior students, and for graduating students, this can be considered an expected outcome.

There is a significant difference between students' academic achievement and "independent", "avoidant" and "participant" learning styles. Students with high academic achievement are more interested in the class and enjoy being in the class room. They are also happy to share their ideas and skills. These features have already brought success in learning process.

Intelligence areas also differ according to gender. While male students' physical and musical intelligences are in the foreground, female students' tendencies of existential, logical and verbal intelligences are in the foreground. In general, this situation explains the higher academic achievement of female students than male students.

The interpersonal and verbal intelligence of the students who are studying at the vocational university is more dominant than the public university. For the students at the state university, the intrapersonal, musical and natural intelligence are more dominant. It can be thought that this situation is related to the social, cultural environments and family structures of the students. On the other hand, the environments offered by universities to students may also be a factor in their university preferences.

It was found out that intelligence tendencies showed differences according to the age of the students. Many studies have shown that experience and learning can create these differences in intelligence tendencies. These differences are consistent with the literature. In addition, intelligence tendencies show differences at class level. Significant differences occur largely in sophomore year and this difference is dominant in intrapersonal intelligence. This corresponds to the individual's self-awareness which is compatible with the class. In addition, it can be considered that the intrapersonal intelligence, which correspond to the fact that a person takes unfaltering steps to achieve these goals by setting goals about themselves, is a suitable definition for this class.

No significant difference was found out between the students' academic achievement (general and categorical grade point averages) and verbal intelligence tendency, and it was seen that the natural intelligence of the student with the lowest academic achievement was dominant. This may be fact that all students have the same verbal intelligence tendencies due to their language learning and this is not a factor determining their academic achievement. The positive relationship between predominance of existential intelligence and

academic achievement can be considered as a specific result of this study. Three learning styles that increase academic achievement in terms of learning style; independent, participant and avoidant styles. Students with independent learning style who like to think for themselves and trust their own learning abilities like to study the subjects that they consider important and prefer to work on their own. It is a positive situation that they can improve their learning skills by working on their own and giving them self-instruction, which may explain success.

Students, who have a participant learning style, are willing to attend school, participate in class activities more frequently and enjoy performing assignments and responsibilities in all courses (compulsory, elective, etc.). All these beneficial outcomes and high academic achievement can be considered as a factor that increases the motivation of language learners via Multiple Intelligence practices.

5.3. Further Implications

The results of this study indicated that language students might have a variety of difficulties and needs and the role of language educators should be to notice them and provide the necessary remedial teaching practices. This study involves certain precious implications for language educators or future researchers dealing with Multiple Intelligence Theory and Learning Styles.

First, the research can carry out further studies based on Multiple Intelligence Theory for other fields in education. Secondly, the researchers can apply or adapt the questionnaires used in this study to develop relationship between learning styles and attitudes of students in learning process. Also, the researchers can conduct the same study in other universities for a more comparative analysis. In-class observations or interviews can also create a different perspective of the topic of this study. Finally, future studies may be conducted with a larger group of students to have more generalizable results.

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Grasha-Riechmann
Student Learning Style Scales
General Class Form

The following questionnaire has been designed to help you clarify your attitudes and feelings toward the courses you have taken thus far in college. There are no right or wrong answers to each question. However, as you answer each question, form your answers with regard to your general attitudes and feelings towards all of your courses.

Respond to the items listed below by using the following rating scale. Follow the instructions of the person administering this questionnaire and put your answers either on a separate sheet of paper or on a computer scored answer sheet that is provided.

Use a rating of 1 if you *strongly disagree* with the statement.
Use a rating of 2 if you *moderately disagree* with the statement.
Use a rating of 3 if you are *undecided*.
Use a rating of 4 if you *moderately agree* with the statement.
Use a rating of 5 if you *strongly agree* with the statement.

01. I prefer to work by myself on assignments in my courses.
02. I often daydream during class.
03. Working with other students on class activities is something I enjoy doing.
04. I like it whenever teachers clearly state what is required and expected.
05. To do well, it is necessary to compete with other students for the teacher's attention.
06. I do whatever is asked of me to learn the content in my classes.
07. My ideas about the content often are as good as those in the textbook.
08. Classroom activities are usually boring.
09. I enjoy discussing my ideas about course content with other students.
10. I rely on my teachers to tell me what is important for me to learn.
11. It is necessary to compete with other students to get a good grade.
12. Class sessions typically are worth attending.
13. I study what is important to me and not always what the instructor says is important.
14. I very seldom am excited about material covered in a course.
15. I enjoy hearing what other students think about issues raised in class.
16. I only do what I am absolutely required to do in my courses.
17. In class, I must compete with other students to get my ideas across.
18. I get more out of going to class than staying at home.
19. I learn a lot of the content in my classes on my own.
20. I don't want to attend most of my classes.
21. Students should be encouraged to share more of their ideas with each other.
22. I complete assignments exactly the way my teachers tell me to do them.
23. Students have to be aggressive to do well in courses.
24. It is my responsibility to get as much as I can out of a course.
25. I feel very confident about my ability to learn on my own.
26. Paying attention during class sessions is difficult for me to do.

• *Please continue questionnaire on the next page.*

Grasha-Riechmann Student Learning Style Scales

Specific Class Form

Rating Scale

Use a rating of 1 if you *strongly disagree* with the statement
Use a rating of 2 if you *moderately disagree* with the statement.
Use a rating of 3 if you are *undecided*.
Use a rating of 4 if you *moderately agree* with the statement.
Use a rating of 5 if you *strongly agree* with the statement.

27. I studied for tests with other students.
28. I did not like making choices about what to study or how to do assignments.
29. I tried to solve problems or answer questions before anybody else in class could.
30. Classroom activities were interesting.
31. I tried to develop my own ideas about course content.
32. I gave up trying to learn anything from going to class.
33. This class made me feel like part of a team where people helped each other learn.
34. Students needed to be more closely supervised on course projects.
35. To get ahead in this class, it was necessary to step on the toes of other students.
36. I tried to participate as much as I could in all aspects of the course.
37. I had my own ideas about how this class should be run.
38. I studied just hard enough to get by.
39. An important part of taking this course was learning to get along with other people.
40. My notes contained almost everything the teacher said in class.
41. Being one of the best students in class was very important to me.
42. I did all course assignments well whether or not I thought they were interesting.
43. If I liked a topic, I tried to find out more about it on my own.
44. I typically crammed for exams.
45. Learning the material was a cooperative effort between students and the teacher.
46. I wanted class sessions to be highly organized.
47. To stand out in this course, I completed assignments better than other students.
48. I typically completed course assignments before their deadline.
49. I was able to work at my own pace in this class.
50. I wanted the teacher to ignore me in class.
51. I was willing to help other students out when they did not understand something.
52. Students should have been told exactly what material was to be covered on exams.
53. I wanted to know how well other students were doing on exams and assignments.
54. I completed required assignments as well as those that were optional.
55. When I didn't understand something, I first tried to figure it out for myself.
56. During class, I tended to socialize with people sitting next to me.
57. I enjoyed participating in small group activities during class.
58. I liked it when the teacher was well organized for a session.
59. I wanted the teacher to give me more recognition for the good work I was doing.
60. In this class, I often sat toward the front of the room.

MULTIPLE INTELLIGENCE SURVEY

- **Directions:** People differ in their ways of learning and knowing. These differences are called Multiple Intelligences. Below is a list of 27 items in 3 sets that relate to each type of Multiple Intelligence. Some of these will apply to how you like to learn, and others will not.
- **Ranking:** There are nine items in each group. For each of the three groups, **rank** the items according to how they apply to you. **Put a 1 next to the item that is *most* like you**. Put a 2 next to the item that is second most like you. Do this for each item until you have numbered every item with a number from 1 to 9. **The item *least* like you should be 9**. Do not use a number more that once in each group.
- **Rank each of the following 9 items from 1 to 9.**

1. I live an active lifestyle.
2. Meditation exercises are rewarding.
3. I am a "team player".
4. Fairness is important to me.
5. Structure helps me be successful.
6. I enjoy many kinds of music.
7. My home has a recycling system in place.
8. I keep a journal.
9. I enjoy doing three dimensional puzzles.

Rank each of the following 9 items from 1 to 9.

10. I enjoy outdoor games.
11. Questions about the meaning of life are important to me.
12. I learn best interacting with others.
13. Social justice issues concern me.
14. I get easily frustrated with disorganized people.
15. I have always been interested in playing a musical instrument.
16. Animals are important in my life.
17. I write for pleasure.
18. I can recall things in mental pictures.

Rank each of the following 9 items from 1 to 9.

19. I like working with tools.
20. I enjoy discussing questions about life.
21. Things such as clubs and extracurricular activities are fun.
22. I learn best when I have an emotional attachment to the subject.
23. Step-by-step directions are a big help.
24. Remembering song lyrics is easy for me.
25. Hiking is an enjoyable activity.
26. Foreign languages interest me.
27. I can imagine ideas in my mind.

Appendix-3.1

Cinsiyet: Erkek (E) (K) Kız **Yaş:** (18) (19) (20) (21) (22) (23) (24) ◯ ...

Üniversite: Devlet (D) (V) Vakıf **Sınıf** (H: Hazırlık): (H) (1) (2) (3) (4) (5)

Genel Ağırlıklı Not Ortalaması: .....

Örnek kodlama ● ✍

Sevgili Öğrenciler,

Bu veri toplama aracı, sahip olduğunuzu düşündüğünüz öğrenme stillerinize yönelik tercihlerinizin belirlenmesi amacıyla geliştirilmiştir. Sizden ilgili her bir ifadeyi dikkatlice okuyarak size uyduğunu düşündüğünüz madde konusunda; eğer kesinlikle katılmıyorsanız (1)'i, katılmıyorsanız (2)'yi, kararsızsanız (3)'ü, katılıyorsanız (4)'ü, kesinlikle katılıyorsanız (5)'i işaretleyiniz. Lütfen işaretlenmemiş seçenek bırakmayınız. Maddelerde doğru ya da yanlış yanıt yoktur; vereceğiniz yanıtlar kişiden kişiye değişebilir. Yanıtlarınızın, sizin gerçek düşüncelerinizi yansıtması çok önemlidir. Verdiğiniz yanıtlar yalnızca bilimsel amaçlarla kullanılacak, hiçbir kişi veya kuruma açıklanmayacaktır. Yanıtlarınızı, yalnızca İngilizce dersine karşı genel tutum ve duygularınızı düşünerek veriniz. Katkınız için teşekkür ederiz.

(1) Kesinlikle katılmıyorum :(	(2) Katılmıyorum	(3) Kararsızım :|	(4) Katılıyorum	(5) Kesinlikle katılıyorum :)

	(1) :(	(2)	(3) :|	(4)	(5) :)
1. Derste verilen ödevleri kendi başıma yapmayı tercih ederim.	(1)	(2)	(3)	(4)	(5)
2. Derste sık sık hayal kurarım.	(1)	(2)	(3)	(4)	(5)
3. Sınıf içi etkinliklerde diğer öğrencilerle birlikte çalışmaktan hoşlanırım.	(1)	(2)	(3)	(4)	(5)
4. Öğretmenlerin yapılması gerekenleri ve beklentileri açıkça ifade etmesinden hoşlanırım.	(1)	(2)	(3)	(4)	(5)
5. Derste başarılı olmada, öğretmenin dikkatini çekebilmek için diğer öğrencilerle rekabet etmek gerekir.	(1)	(2)	(3)	(4)	(5)
6. Derslerimde konuyu öğrenebilmek için benden ne istenirse yaparım.	(1)	(2)	(3)	(4)	(5)
7. Dersin içeriği hakkındaki düşüncelerim genellikle kitaplardaki kadar iyidir.	(1)	(2)	(3)	(4)	(5)
8. Sınıfta yapılan etkinlikleri genellikle sıkıcı bulurum.	(1)	(2)	(3)	(4)	(5)
9. Konu ile ilgili fikirlerimi diğer öğrencilerle tartışmaktan hoşlanırım.	(1)	(2)	(3)	(4)	(5)
10. Derste nelerin önemli olduğu konusunda öğretmenlerimin söylediklerine güvenirim.	(1)	(2)	(3)	(4)	(5)
11. İyi not almak için diğer öğrencilerle yarışmak gereklidir.	(1)	(2)	(3)	(4)	(5)
12. Dersler devam etmeye değerdir.	(1)	(2)	(3)	(4)	(5)
13. Öğretmenin önemli olduğunu söylediği konudan ziyade, bana önemli gelen konuya çalışırım.	(1)	(2)	(3)	(4)	(5)
14. Derste kullanılan materyallere çok nadir ilgi duyarım.	(1)	(2)	(3)	(4)	(5)
15. Sınıfta gündeme gelen konular hakkında diğer öğrencilerin fikirlerini duymaktan hoşlanırım.	(1)	(2)	(3)	(4)	(5)
16. Derslerde yalnızca yapmak zorunda olduklarımı yaparım.	(1)	(2)	(3)	(4)	(5)
17. Sınıfta, fikirlerimi kabul ettirmek için, diğer öğrencilerle yarışmam gerekir.	(1)	(2)	(3)	(4)	(5)
18. Derse gidince, evde kaldığım zamanlardan daha çok şey öğrenirim.	(1)	(2)	(3)	(4)	(5)
19. Girdiğim derslerde konunun büyük bir bölümünü kendi başıma öğrenirim.	(1)	(2)	(3)	(4)	(5)
20. Derslerin çoğuna katılmak istemem.	(1)	(2)	(3)	(4)	(5)
21. Öğrenciler birbiriyle daha çok fikir alışverişi yapmak için cesaretlendirilmelidir.	(1)	(2)	(3)	(4)	(5)
22. Ödevlerimi tam olarak öğretmenlerimin yapmamı söylediği şekilde yaparım.	(1)	(2)	(3)	(4)	(5)
23. Öğrenciler derslerde başarılı olabilmek için girişken olmalıdır.	(1)	(2)	(3)	(4)	(5)
24. Bir dersten alabildiğim kadar çok şey almak benim sorumluluğumdadır.	(1)	(2)	(3)	(4)	(5)
25. Kendi başıma öğrenme konusundaki yeteneğime oldukça güvenirim.	(1)	(2)	(3)	(4)	(5)
26. Derslere dikkatimi vermek benim için çok zordur.	(1)	(2)	(3)	(4)	(5)
27. Sınavlara diğer öğrencilerle birlikte çalışmaktan hoşlanırım.	(1)	(2)	(3)	(4)	(5)
28. Neyi çalışacağım ya da ödevleri nasıl yapacağım konusunda tercihin bana bırakılmasından hoşlanmam.	(1)	(2)	(3)	(4)	(5)
29. Problemleri başkalarından önce çözmekten ve soruları onlardan önce yanıtlamaktan hoşlanırım.	(1)	(2)	(3)	(4)	(5)
30. Sınıf etkinliklerini ilginç bulurum.	(1)	(2)	(3)	(4)	(5)
31. Ders içeriği ile ilgili yeni fikir üretmekten hoşlanırım.	(1)	(2)	(3)	(4)	(5)
32. Derslere devam ederek bir şeyler öğrenmekten umudumu kestim.	(1)	(2)	(3)	(4)	(5)
33. Dersler bana birbirlerinin öğrenmelerine yardımcı olan bir takımın parçası olduğum hissini verir.	(1)	(2)	(3)	(4)	(5)
34. Öğrenciler, ders projeleri ile ilgili öğretmenleri tarafından daha yakından takip edilmelidir.	(1)	(2)	(3)	(4)	(5)
35. Sınıfta öne geçebilmek için, diğer öğrencileri saf dışı bırakmak gereklidir.	(1)	(2)	(3)	(4)	(5)
36. Dersle ilgili her konuya mümkün olduğunca çok katılmaya çalışırım.	(1)	(2)	(3)	(4)	(5)
37. Derslerin nasıl işlenmesi gerektiği konusunda kendi düşüncelerim vardır.	(1)	(2)	(3)	(4)	(5)
38. Yalnızca dersi geçmeme yetecek kadar çalışırım.	(1)	(2)	(3)	(4)	(5)
39. Derslerin bir önemli yanı da diğer kişilerle geçinmeyi öğrenmektir.	(1)	(2)	(3)	(4)	(5)
40. Derste tuttuğum notlar öğretmenin sınıfta anlattıklarının hemen hemen hepsini içerir.	(1)	(2)	(3)	(4)	(5)
41. Sınıfta en iyi öğrencilerden biri olmak benim için çok önemlidir.	(1)	(2)	(3)	(4)	(5)
42. İlgi çekici bulsam da bulmasam da tüm ödevlerimi iyi yaparım.	(1)	(2)	(3)	(4)	(5)
43. Eğer konuyu seversem, o konu hakkında kendim daha çok şey öğrenmeye çalışırım.	(1)	(2)	(3)	(4)	(5)
44. Sınavlar için çok yoğun çalışırım.	(1)	(2)	(3)	(4)	(5)
45. Konuyu öğrenmek öğrenci ve öğretmenin ortaklaşa çabasıdır.	(1)	(2)	(3)	(4)	(5)

① Kesinlikle katılmıyorum :(	② Katılmıyorum	③ Kararsızım :|	④ Katılıyorum	⑤ Kesinlikle katılıyorum :)

	① :(	②	③ :|	④	⑤ :)
46. İyi organize edilmiş dersleri tercih ederim.	①	②	③	④	⑤
47. Sınıfta öne çıkabilmek için, ödevleri diğer öğrencilerden daha iyi yaparım.	①	②	③	④	⑤
48. Ödevlerimi son teslim tarihinden önce tamamlarım.	①	②	③	④	⑤
49. Kendi öğrenme hızımda çalışabileceğim derslerden hoşlanırım.	①	②	③	④	⑤
50. Sınıfta öğretmenlerin beni görmezden gelmelerini tercih ederim.	①	②	③	④	⑤
51. Anlamadıkları bir şey olduğunda diğer öğrencilere yardım etmek isterim.	①	②	③	④	⑤
52. Öğrencilere, sınavlarda tam olarak hangi konulardan sorumlu olacakları açıkça belirtilmelidir.	①	②	③	④	⑤
53. Diğer öğrencilerin sınavlarda ve ödevlerde ne kadar başarılı olduklarını bilmek isterim.	①	②	③	④	⑤
54. Yapılması zorunlu olan ödevleri de zorunlu olmayanlar kadar iyi yaparım.	①	②	③	④	⑤
55. Bir şeyi anlamadığımda, onu kendim öğrenmeye çalışırım.	①	②	③	④	⑤
56. Derslerde, yanımda oturan kişilerle iletişim kurmaya çalışırım.	①	②	③	④	⑤
57. Ders içerisinde küçük grup etkinliklerine katılmaktan hoşlanırım.	①	②	③	④	⑤
58. Öğretmenlerimin derse iyi hazırlanmış olarak gelmesi hoşuma gider.	①	②	③	④	⑤
59. Öğretmenlerimin yaptığım iyi işlerde beni daha fazla takdir etmelerini isterim.	①	②	③	④	⑤
60. Sınıfta genellikle ön sıralarda otururum.	①	②	③	④	⑤

Açıklamalar: İnsanlar bilme ve öğrenme biçimleri bakımından farklılık gösterirler. Bu farklılıklar '**Çoklu Zekâ**' olarak adlandırılır. Aşağıda çoklu zekânın her bir alanı ile ilgili olan üç grup içerisinde 27 maddelik bir anket bulunmaktadır. Bunlardan bazıları, hangi yolla öğrenmenin size uygun olduğunu ortaya çıkaracaktır.

Her grupta dokuz madde bulunmaktadır. Her üç grup için maddeleri size uygunluğuna göre derecelendiriniz. **Size en yakın madde için ①, size en yakın ikinci madde için ② rakamını ● şeklinde işaretleyiniz.** Bu işleme bütün maddeleri ①'den ⑨'a kadar sıralayarak devam ediniz. Size en uzak madde ⑨ olmalıdır. **Her madde için bir tek sayı yazınız!**

Aşağıdaki 9 maddelik ifadeleri, size uygun olacak şekilde, 1'den 9'a kadar sıralayınız.

	Sıralama
1. Hareketli bir yaşam tarzım var.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
2. Düşünme egzersizleri faydalıdır.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
3. Grupla beraber hareket ederim.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
4. Adil olmak, benim için önemlidir.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
5. Sistemli olmak, başarılı olmama yardımcı olur.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
6. Farklı müzik türlerinden hoşlanırım.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
7.Yaşadığım yerde geri dönüşümü sağlamak için çaba gösteririm.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
8. Günlük tutarım.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
9. Üç boyutlu yap-boz yapmaktan hoşlanırım.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

Aşağıdaki 9 maddelik ifadeleri, size uygun olacak şekilde, 1'den 9'a kadar sıralayınız.

	Sıralama
10. Dışarıda oynanan oyunları severim.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
11. Hayatın anlamı ile ilgili sorular benim için önemlidir.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
12. Başkalarıyla etkileşim içinde olduğumda, en iyi şekilde öğrenirim.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
13. Sosyal adalete ilişkin sorunlarla ilgilenirim.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
14. Düzeni bozan insanlar, beni kolaylıkla sinirlendirir.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
15.Bir müzik aleti çalmakla her zaman ilgilenmişimdir.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
16. Hayatımda hayvanların önemli bir yeri vardır.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
17. Yazmaktan hoşlanırım.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
18.Nesneleri, zihnimdeki resimleriyle canlandırabilirim.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

Aşağıdaki 9 maddelik ifadeleri, size uygun olacak şekilde, 1'den 9'a kadar sıralayınız.

	Sıralama
19. Aletlerle çalışmayı severim.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
20. Hayatla ilgili soruları tartışmayı severim.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
21.Ders dışı etkinlikler ve kulüp etkinlikleri eğlencelidir.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
22. Konuyu seversem en iyi şekilde öğrenirim.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
23. Adım adım yönlendirmeler bana çok katkı sağlar.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
24. Şarkı sözlerini kolaylıkla hatırlarım.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
25. Doğa gezintilerini eğlenceli bulurum.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
26. Yabancı diller ilgimi çeker.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
27. Düşünceleri zihnimde canlandırabilirim.	① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

Katkılarınız için teşekkürler.