



**EFFECTS OF MULTIPLE INTELLIGENCES ACTIVITIES
IN A CONTENT-BASED CONTEXT ON GRAMMAR,
VOCABULARY, WRITING AND READING
COMPREHENSION AND ATTITUDES OF
LEARNERS AND TEACHERS OF ENGLISH**

Zennure ELGÜN GÜNDÜZ

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Department of Foreign Languages Teaching
Assist. Prof. Dr. İ. Doğan ÜNAL
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**KONU-ODAKLI ÖĞRETİM ORTAMINDA UYGULANAN ÇOKLU
ZEKA ETKİNLİKLERİNİN İNGİLİZCE DİLBİLGİSİ, KELİME, YAZMA
VE OKUDUĞUNU ANLAMA İLE ÖĞRENCİLERİN VE
ÖĞRETMENLERİN TUTUMLARINA ETKİLERİ**

(Effects of Multiple Intelligences activities in a content-based context on
grammar, vocabulary, writing and reading comprehension and attitudes of
learners and teachers of English)

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Zennure ELGÜN GÜNDÜZ

Danışman: Yrd. Doç. Dr. İ. Doğan ÜNAL

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Başkan : Doç. Dr. Gencer ELKILIÇ

İmza: 


Danışman : Yrd. Doç. Dr. İ. Doğan ÜNAL

İmza: 

Jüri Üyesi : Yrd. Doç. Dr. Savaş YEŞİLYURT

İmza: 

Jüri Üyesi : Yrd. Doç. Dr. Oktay AKARSU

İmza: 

Jüri Üyesi : Yrd. Doç. Dr. Ahmet S. AKDEMİR

İmza: 

Yukarıdaki imzaların adı geçen öğretim üyelerine ait olduğunu onaylarım.

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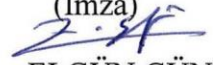
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ÖZET

DOKTORA TEZİ

KONU-ODAKLI ÖĞRETİM ORTAMINDA UYGULANAN ÇOKLU ZEKA ETKİNLİKLERİNİN İNGİLİZCE DİLBİLGİSİ, KELİME, YAZMA VE OKUDUĞUNU ANLAMA İLE ÖĞRENCİLERİN VE ÖĞRETMENLERİN TUTUMLARINA ETKİLERİ

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Pek çok kişisel özellik bakımından bütün bireylerin birbirinden farklı oldukları çok iyi bilinen bir gerçektir. Bu durum, yabancı dil öğrencileri için de geçerlidir. Bütün yabancı dil öğrencilerinin, dil öğrenme ortamlarına getirdikleri farklı özellikleri bulunmaktadır. Öğrencilerin farklı özellikleri onların zeka özelliklerine de yansımaktadır; bu yüzden her bir öğrenci sahip olduğu zeka özellikleri bakımından da diğerlerinden farklıdır. Ancak, bütün insanların tek ve özel olduğu tartışmasız bir gerçek olmasına rağmen, yabancı dil sınıflarında öğrencilerin çoğu geleneksel yöntem diye adlandırılan yöntemin uygulanmasıyla aynı şekilde öğrenim görmekte ve birbirlerinden ne kadar farklı olurlarsa olsunlar, aynı konuları arkadaşlarıyla aynı biçimde öğrenmeleri beklenmektedir. Geleneksel öğretim yöntemi, farklı öğrencilere aynı teknikler ile öğretim yapmayı kapsamaktadır, bu teknikler arasında sunuş yoluyla öğretim, ve ezber sayılabilir. Geleneksel öğretim yöntemi, öğrencilerin farklı alanlardaki güçlü ve zayıf yönlerini göz ardı eden ve çoğunlukla sözel / dilsel ve mantıksal / matematiksel zeka türlerine dayalı olan bir öğretim yöntemidir. Gardner, bütün bireyleri birbirine benzer olarak değerlendiren geleneksel yöntem tepki olarak, yabancı dil öğretimi için de önemli içerimleri olan Çoklu Zeka Kuramını (ÇZ Kuramı) ileri sürmüştür. ÇZ Kuramı, zekanın sadece sözel ve matematiksel yetenekler ile sınırlı olmadığını, bunun yerine görsel, sözel, matematiksel, hareketsel, sosyal, içsel ve doğa zekası gibi çok daha fazla zeka türünün olduğunu savunmaktadır. ÇZ Kuramına göre, insanlar bu zeka türlerinin farklı ve eşsiz birleşimlerine sahiptir; bu yüzden, her bir bireyin kendine özgü öğrenme biçimleri bulunmaktadır. Bu nedenle, tek bir öğretim yöntemini uygulamak yerine, öğretmenler mümkün olduğunca fazla öğrenciye ulaşabilmek için farklı ve çeşitli öğretim tekniklerini derslerinde uygulamalıdır.

Bu çalışmanın temel amacı, konu-odaklı öğretim çerçevesinde uygulanan çoklu zeka etkinliklerinin yabancı dil olarak İngilizce öğrenen 6. ve 9. Sınıf öğrencilerinin İngilizce dilbilgisi, kelime bilgisi, yazma ve okuduğunu anlama becerilerine etkilerini araştırmaktır. Bu çalışma aynı zamanda, konu-odaklı öğretim çerçevesinde çoklu zeka etkinliklerinin uygulanmasının ardından öğrencilerin İngilizce dersine karşı tutumlarında bir değişiklik olup olmadığını incelemeyi amaçlamaktadır. Çalışma, dil öğretiminde çoklu zeka etkinliklerinin uygulanma süreçlerine ilişkin öğretmen görüşlerini ortaya koymayı da hedeflemektedir.

Bu amaçlar doğrultusunda, 6. ve 9. sınıf düzeylerinde öntest – sontest yarı deneysel bir çalışma yapılmıştır. Çalışmanın bulguları, konu-odaklı öğretim çerçevesinde uygulanan çoklu zeka etkinliklerinin her iki sınıf düzeyinde de öğrencilerin İngilizce dilbilgisi, kelime bilgisi, yazma ve okuduğunu anlama becerilerini artırmada geleneksel yöntemden daha etkili olduğunu ortaya koymaktadır. Çalışma aynı zamanda her iki sınıf düzeyinde de öğrencilerin çoklu zeka etkinliklerine dayalı olarak işlenen İngilizce derslerine karşı olumlu tutum geliştirdikleri sonucuna ulaşmıştır. Öğretmenlerin görüşleri konusunda ise, öğretmenlerin de çoklu zeka etkinliklerine karşı olumlu bir tutuma sahip olduklarını ancak çoklu zekaya dayalı etkinliklerin uygulanması sürecinde karşılaştıkları zorluklar konusunda bazı çekincelerinin bulunduğunu ortaya koymaktadır. Sonuç olarak, bu çalışmanın bulgularının Türkiye’de yabancı dil öğretimi süreçleri ile ilgili olarak önemli içerimlere sahip olduğunu belirtmek mümkündür.

Anahtar Kelimeler: Yabancı Dil Öğretimi, Geleneksel Yöntem, Çoklu Zeka Kuramı, Konu-Odaklı Öğretim

ABSTRACT

DOCTORATE THESIS

THE EFFECTS OF MULTIPLE INTELLIGENCES ACTIVITIES ON GRAMMAR, VOCABULARY, WRITING AND READING COMPREHENSION DEVELOPMENT AND ATTITUDES OF LEARNERS AND TEACHERS OF ENGLISH

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It is a well known fact that each and every individual is different from each other in terms of many personal characteristics. The case is the same for foreign language learners, as well. Each language learner possesses distinct characteristics that s/he brings into language learning environments. Their distinct characteristics are also reflected on their intelligence profiles; therefore, each language learner is unique in terms of his/her intelligence profile. However, although it is an undisputable fact that each and every human being is unique, in language classrooms, most of the students are instructed through same methods, which can be named as traditional way of instruction, being expected to learn the same topics in the same ways with their peers no matter how they are different from each other. Traditional method of instruction involves instructing different students through the same techniques such as lecturing, drills, and memorization. Traditional method of language teaching is often based on verbal / linguistic and logical / mathematical intelligences of learners ignoring students' strengths or weaknesses in other domains. As a reaction to traditional view of considering all individuals as similar, Gardner proposed Multiple Intelligences Theory (MI Theory) which has fundamental implications for the processes of teaching and learning a foreign language. MI Theory is based on the idea that intelligence is not restricted by only verbal and mathematical abilities; instead there are multiple types of intelligence, which can be listed as visual, verbal, mathematical, kinaesthetic, interpersonal, intrapersonal, naturalistic, and musical intelligence. It suggests that people have unique combinations of these intelligences; thus each and every learner can have distinct ways of learning. Therefore, instead of following one type of instructional method, instructors need to incorporate various instructional techniques in their lessons in order to reach as many students as possible.

The basic purpose of the present study is to explore the effects of Multiple Intelligences based activities implemented in a content-based context on grammar and vocabulary learning, reading comprehension, and writing development of EFL students at both 6th and 9th grade levels. The current study also aims at finding out whether there are any differences in students' attitudes towards learning English after the implementation of the MI-based activities through a content. Besides, the study has a goal of exploring teachers' attitudes towards the processes involved in the application of MI-based activities in language teaching.

For these ends, a quasi-experimental study with a pretest – posttest design was conducted at both 6th and 9th grade levels. The findings suggest that instruction conducted through MI-based activities in a content-based context has been more effective than the traditional method in improving students' knowledge of grammar, vocabulary and their skills of writing and reading comprehension in English at both grade levels. The study also reveals that the students have positive attitudes towards English lessons conducted through MI-based instruction at both grade levels. In terms of teachers' opinions, the study puts forward that teachers have also positive attitudes towards MI-based instruction; however, they also have some reservations about the challenges involved in the process of implementing MI-based activities. In conclusion, it is appropriate to state that the findings of the present study have important implications for the processes involved in foreign language teaching in Turkey.

Key Words: Foreign Language Teaching, Traditional method, Multiple Intelligences Theory, Content-Based Instruction

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ABBREVIATIONS

MI	: Multiple Intelligences
CBI	: Content Based Instruction
EFL	: English as a Foreign Language
L1	: First Language
L2	: Second Language
Exp.	: Experimental
T	: Teacher
S	: Student
Ts	: Teachers
Ss	: Students
Ph.D	: Philosophy of Doctorate

CHAPTER ONE

1. INTRODUCTION

In globalizing world, the need to communicate effectively with other countries speaking different languages has increased the vitality of learning a foreign language that can be used as a common language for international relations. Therefore, the importance of teaching and learning English as a lingua franca is realized day by day. In order to provide an effective foreign language education, methods and techniques that have been applied so far are continuously being questioned in terms of their efficacy. Within this framework, researchers in the field of foreign language education try to explore ways in order to improve the language teaching and learning standards.

1.1. Theoretical Basis of the Study

A quick review of the language teaching methods reveals that researchers and teachers interested in foreign language teaching have tried to come up with a diverse range of methods for achieving a successful language education. The range of these methods vary from grammar-translation method, direct method, audio-lingual method, the silent way to task-based language teaching and communicative language teaching (Larsen-Freeman & Anderson, 2015; Richards & Rodgers, 2001). Changes in language teaching methods throughout the history have reflected the changes in the viewpoints of foreign language teaching researchers about issues such as what kind of proficiency is needed, what kind of roles teachers and learners had better have and how the classroom context should be. Within the framework of the current study, methods that emphasize the mastery of grammar rules and memorization of certain language structures and expressions within a teacher-centered language teaching context are usually referred as traditional methods of language instruction while the ones that emphasize meaningful and purposeful communication in real life contexts and give priority to student-centered instruction are named as contemporary or modern methods of language instruction. (Broughton, Brunfit, Pincas, 1994; Scrivener, 2005).

Traditional approach to foreign language teaching (which is often called as grammar translation method) dates back to the ends of 18th century. It was used to develop students' ability to understand and translate classical works of literature in Latin and Greek. When modern languages started to enter the curricula in the 19th century, teachers went on applying the same method used for teaching classical Latin and Greek for teaching modern languages as well (Richards & Rodgers, 2001). The traditional method is often used to describe scholarly language teaching that aims at teaching language learners the rules and vocabulary items of a language, and it regards language as being composed of a number of grammatical rules and many vocabulary items that need to be usually memorized. Language production is viewed as a process of combining various vocabulary items in accordance with certain language forms or structures in a prescriptive way (Tyler, 2008; Walia, 2012). The basic material in language classes involve textbooks which offer students bilingual lists of vocabulary and grammar rules (Richards & Rodgers, 2001). In terms of classroom context, the students sit at desks facing the blackboard and the teacher stands in front of the classroom to teach. Teacher is the absolute authority in the classroom, and students are seen as the "absorbers" of whatever the teacher says and writes. The process of language learning is seen as a mechanical process that takes place out of the real life circumstances (Xia, 2014). The basic role of teacher is seen as transmitting knowledge to students through lecturing; therefore, the teacher is the active side in the classroom. Students are in passive positions and they are expected to listen to their teachers attentively and learn the rules and words so that they are believed to use the target language. As a result, basic language skills such as reading, writing, listening and speaking are not emphasized, the attention is given only to written language instead of spoken one (Tyler, 2008, Xia, 2014). The process of language instruction is basically composed of transmission of knowledge from teacher to students through lecturing, memorization of dialogs, question and answer practices and language drills (Richards, 2006). The basic premise underlying the traditional approach is that all language learners are the same (or at least similar) so all language learners should be able to learn the target language in the same way and through the same techniques.

Such a uniform view of language learners is a reflection of traditional, uniform view of intelligence (Gardner, 1983, 1993). Traditional language teaching practices can

be best understood by considering the scope of traditional approaches to intelligence. Traditional views of intelligence claim that intelligence is singular, and individuals have a single and measurable intelligence which is static (Campbell, Campbell, & Dickinson, 1999). Individuals are considered to have a general intelligence which can be used to classify students as intelligent or not. The intelligence of learners is believed to be measured through IQ (Intelligence Quotient) tests which are composed of linguistic and logical-mathematical tasks. As a result, if a person is not linguistic or logical-mathematical oriented, then it is often possible that this person will get lower scores in IQ tests, and s/he will be regarded as not intelligent enough (Barrington, 2004). Unitary view of intelligence leads to unitary applications in schools. As intelligence is restricted to linguistic and logical-mathematical abilities, instruction in schools is often conducted through linguistic and logical-mathematical ways. Therefore, the students who are not strong in these intelligences fall behind and the ones who are strong in these intelligences are considered as smart (Armstrong, 1999).

The traditional concept of intelligence has been challenged by Gardner (1983) as he expanded the parameters of being intelligent beyond linguistic and logical-mathematical abilities. He claims that intelligent behavior includes a diversity of human abilities; therefore there are multiple intelligences (MI) (Silver, Strong, & Perini, 2000). Contrary to the traditional views of intelligence that support the belief that there is a general faculty of innate and static intelligence, and it is independent of factors such as age, training or experience, the central idea of MI is that there are many ways for being accepted as intelligent (Barrington, 2004). Gardner's view of intelligence incorporates three characteristics; the ability to solve real life problems, the ability to create new problems and solve them, and the ability to make something or do some service valued in a particular culture (Gardner, 1999). Gardner acknowledged the role of heredity in intelligence; however, he also considered the role of culture in conceptualizing what intelligence is. According to him, different cultures value different products or services; therefore, individuals have motivations for improving themselves for solving problems or producing new things in accordance with what is valued in their own culture. As a result, while some intelligences are developed in some cultures some of them may not develop due to specific expectations of specific cultures (Gardner, 1983).

Gardner prefers to add an “s” to “intelligence” as he challenges the traditional idea of IQ theory, which supported the idea that human cognition was unitary and individuals’ intelligences could be described as a single and quantifiable intelligence.

Gardner avoided viewing intelligence as a single number attained from some specific tests out of context; instead, he multiplied the functions of intelligence (Silver et al., 2000). The important thing is considered to be the process towards being intelligent not the quantity of intelligence (Chan, 2003). Instead of being limited to the skill of problem solving through linguistic and logical/mathematical talents, the concept of intelligence should also involve other content areas such as space, music or interpersonal relations (Gardner, 1999).

Multiple intelligences theory suggests that intelligence is a property of all human beings, no two people can have exactly the same profile of intelligence due to hereditary and environmental reasons; therefore, each human being is unique in terms of his/her intelligence profile (Kornhaber, Krechevsky, & Gardner, 1990). Gardner (1991) states that contextualization is an important factor to determine the intelligence characteristics of a person.

The Theory of Multiple Intelligences has attracted the attention of educators as the concepts of education and intelligence are so intertwined. Although not intended for educational purposes, MI Theory has important implications for education (Armstrong, 1999; Berman, 2002; Gardner, 1999, 2006; Campbell et al., 1999). Gardner (1995) states that “there is no right way to conduct an MI education” (p. 59). However, it is possible to design a variety of educational programs based on MI theory (Gardner, 1999). Applications trying to consider individual differences and to design instruction in line with multiple profiles of learners are welcomed by MI theory; however, uniform school is in direct contrast with the logic of MI theory. Considering the fact that each human being is unique with unique profiles of intelligence, unique personalities and unique ways of viewing and understanding the whole world, it makes no sense to try to teach everybody in the same way.

Considering the basic conceptualizations of MI Theory, researchers that continuously try to find out methods for effective teaching, have regarded MI theory as a new impetus for conducting research studies in order to see its effectiveness all around

the world. Within this framework, research studies have been conducted in various domains such as science education, social sciences, language arts, math, biology, physics, and chemistry. The basic finding of these research studies is that MI based instruction has positive effects on students' achievement level (e.g. Arnold & Fonseca, 2004; Burman, & Evans, 2003). Multiple intelligences theory has been subject to numerous research studies in Turkey and in other countries. Most of the research studies are descriptive, trying to put forward relationships between participants' gender and intelligence profiles or between intelligence profiles and the strategies they use for certain tasks in the process of language learning. In addition, although Gardner (1999) and Walters and Gardner (1986) assert that it is not possible to determine learners' intelligence profiles through a single inventory, instead learners' weaknesses and strengths can be best understood within a context in which they try to demonstrate their proclivities, otherwise use of a single profile may lead to labeling the students as musical or mathematical, most of the research studies have been conducted to reach findings about students' profiles of intelligences and about the relationships of these profiles with other variables such as age, gender, learning strategies. The studies (theses and articles) with that aim are abundant in Turkey (e.g. Güneş & Gökçek, 2010; Menevis & Ozad, 2014; Sarıcaoğlu & Arıkan, 2009; Şengül, 2015; Yavuz, 2010). There are quite a number of research studies with these purposes in other countries, as well (e.g. Chan, 2005; Diaz-Lefebvre, 2006; Mirzaei, Rahimi Domakani, & Heidari, 2014; Sabet & Kiaee, 2016; Snyder, 2000; Teele, 2000).

The effects of multiple intelligences based instructional methods on students' general performances in foreign language learning have been investigated without focusing on vocabulary, grammar or other language skills in most of the theses and research articles in Turkish context (e.g. Baş, 2010, 2014; Baş & Beyhan, 2010; Bozoğlan, 2004; Güler, 2004; Karadeniz, 2006; Özdener & Özçoban, 2004). Some of the studies investigated the effects of MI-based instruction on only one component of language learning such as vocabulary (e.g. Pekderin, 2006; Yavuz, 2010). The case is similar in the studies conducted abroad, most of the theses and research articles have tried to investigate the effects of MI-based instruction on general performance (e.g. Arnold & Fonseca, 2004; Barrington, 2004; Gibson & Govendo, 1999; Lindsey, Roberts, & CampbellJones, 2005; Madkour, 2009; Noble, 2004; Rattanavich, 2013;

Snyder, 2000; Tomlinson, 1999; Tomlinson, & Eidson, 2003; Weinbaum, Allen, Blythe, Simon, Seidel, & Rubin, 2004) Some of the studies focused on only one aspect of learning such as reading or speaking (e.g. Buschick, Shipton, Winner, & Wise, 2007; Razmjoo, 2008; Salem & Atta, 2013).

When the studies conducted in the field of foreign language teaching are considered, it is seen that an important number of them have focused to investigate basically students' multiple intelligences profiles and the others have focused on its effects on only one dimension of foreign language teaching, that is either vocabulary or grammar topics using quantitative analyses basically. The attitudes of learners and teachers towards MI-based instruction have been investigated through the application of an attitude scale, without going in-depth through interviews (e.g. Baş, 2010; Baş & Beyhan, 2010; Güler, 2004; Yavuz, 2010). A considerable number of studies carried out abroad also have focused on the investigation of students' attitudes towards MI-based instruction (e.g. Liu & Chen, 2014; Rattanavich, 2013).

Consideration of the research studies conducted about English language teaching in Turkish contexts reveals the presence of a gap about research studies handling MI approach within a content-based framework, which is actually a primary prerequisite of MI applications in educational context. In addition, the fact that research studies focus on only one dimension of language instruction through basically quantitative methods also necessitates the conduction of research studies that handles the issue of MI application in English language instruction from multi dimensions incorporating qualitative analyses as well. Besides, the present research studies have been conducted at only one grade level which makes it difficult to make comparisons about the effects of MI based model across different grades. In addition, to the knowledge of the researcher, there are not any research studies conducted to identify the effects of MI-based activities within a content-based context although content-oriented instruction is an important component of MI-based instruction. Therefore, there is a real need to explore the effects of MI-based activities within a content-based framework in a multi-dimensional sense, incorporating quantitative and qualitative findings.

1.2. Statement of problem

The importance of learning English is always emphasized in Turkey; therefore, Ministry of National Education (Milli Eğitim Bakanlığı [MEB]) tries to teach English starting from the 2nd grade at primary school until the 12th grade in high schools. However, it is widely accepted that the foreign language learning success rate is not enough in Turkey as stated in the 2nd-8th Grades English Curriculum (MEB, 2013).

English language is seen as a subject matter to be learned in classes. Although the curricula suggest the use of various techniques in authentic contexts considering learner differences, methods applied in language classrooms are not so varied. The basic instructional method is traditional way of instruction which emphasizes the correct use of grammar rules and vocabulary memorization. The teachers still have the basic role of lecturing while students are in passive positions trying to learn what they are taught in classrooms out of context.

In addition to the usage of mostly traditional methods of teaching, another reason why the students may have difficulty in learning English in Turkey may be the fact that English is taught as a foreign language in Turkey. Therefore, it is already difficult for the students to integrate it in their real lives and make use of it actively. Besides, when teaching English is limited to only teaching the grammar of English and some basic vocabulary items used out of context, then it becomes more difficult for the students to learn English and use it when they really need it. As a result, they tend to forget what they are assumed to learn easily in a very short time. A solution for this obvious problem may be to make learning English a meaningful activity. That is, instead of forcing the students to memorize some abstract rules of grammar and put certain vocabulary items in correct places in the blocks of sentences, the students may be provided with meaningful and purposeful activities during which they need to use English in order to convey meaning, to solve a problem and to communicate intentionally. In traditional classrooms, the examples for certain language forms are given out of context, and therefore, new knowledge is easily forgotten as it cannot be connected with previous knowledge in a meaningful way. Therefore, if new knowledge of language is given in a meaningful way and within a context, then it may be easier for the students to make sense of it and really learn and retain it. This view is supported by

Content-Based Instruction (CBI). CBI is one of the instructional designs depending on the integration of content and language instruction. CBI is based on the principle that language learning occurs when learners are exposed to meaningful samples of language and input in purposeful contexts while they are focusing on content. The curriculum for CBI is derived from the subject matter rather than forms, functions, situations or skills (Stryker & Leaver, 1997). It makes use of authentic texts and materials in real life contexts and provides a learner-centered instruction. There are two basic reasons for the effectiveness of the language and content integrated instruction: one is that when learners are engaged in meaning-focused activities, they are also provided with interesting resources which motivate them to learn content and language together. Thus, language becomes a medium for learning content and for meaningful, purposeful communication. The second reason is that content and language integration enables the learners to improve their content knowledge and language skills simultaneously (Alptekin, Erçetin & Bayyurt, 2007).

MI based instruction is seen as an alternative to the current instructional applications (Kaya & Selçuk, 2009; Pekderin, 2006). As a result, numerous research studies have tried to investigate the effectiveness of MI theory in English language teaching in Turkish context. However, the basic focus of many research studies has been descriptive in statistical sense, such as exploring MI profiles of learners and exploring their attitudes towards English learning through the application of only questionnaires. Some studies tried to find the effects of MI applications on students' achievement of a grammar topic or vocabulary. It should be also stated that although MI-based instruction encourages the use of thematic instruction (Armstrong, 1999, 2003); there are no research studies trying to explore the effects of MI-based applications in a content-based (or theme-based) context. Therefore, it can be concluded that there is a scarcity of research studies trying to explore the effects of MI application on a variety of variables by approaching the issue from a multi-dimensional perspective. In addition, there is a need to explore the effectiveness of MI-based activities within a content-based framework in line with its basic premises. As a last but not least issue, the attitudes and opinions of language learners and language teachers need to be also investigated in depth through the use of not only questionnaires but also interviews so

that implications about the effectiveness of MI-based activities and their applicability in English teaching in Turkish context can be revealed.

1.3. Purpose of the Study and Research Questions

The present study aims at exploring the effects of MI-based activities within content based framework in terms of grammar, vocabulary, reading and writing components of English language teaching. In addition, trying to find out about students' and teachers' attitudes towards the application of MI-based activities in a content-based framework, it aims at arriving at multidimensional conceptualizations making use of not only quantitative methods but also qualitative ones. The study is expected to contribute to the field of foreign language teaching in Turkish context through its findings and the implications related to its research questions which are stated as following.

1. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of learning the target grammar form at the 6th grade level in a primary school in Turkey?
2. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of target vocabulary learning at the 6th grade level in a primary school in Turkey?
3. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of English reading comprehension development at the 6th grade level in a primary school in Turkey?
4. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of English writing development at the 6th grade level in a primary school in Turkey?
5. What are the sixth-grade students' attitudes towards English lessons instructed through traditional method versus multiple intelligences activities in a content-based framework in a primary school in Turkey?

- 5.a. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of their attitudes towards learning English at the 6th grade level in a primary school in Turkey?
6. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of learning the target grammar form at the 9th grade level in an Anatolian High School in Turkey?
7. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of target vocabulary learning at the 9th grade level in an Anatolian High School in Turkey?
8. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of English reading comprehension development at the 9th grade level in an Anatolian High School in Turkey?
9. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of English writing development at the 9th grade level in an Anatolian High School in Turkey?
10. What are the ninth-grade students' attitudes towards English lessons instructed through traditional method versus multiple intelligences activities in a content-based framework in an Anatolian High School in Turkey?
 - 10.a. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of their attitudes towards learning English at the 9th grade level in an Anatolian High School in Turkey?
11. What are the teachers' accounts about the process of implementing MI-based activities in a content-based context versus implementing traditional method to teach English in Turkey?

1.4. Overview of Methodology

The research design applied for the whole of the present study is determined to be mixed method design. In addition, the researcher also had to determine appropriate ways for the collection of quantitative and qualitative data in accordance with the objectives of the research study. As stated in the research objectives section, the objective of the present research study is to explore the effects of Multiple Intelligences activities implemented in a content-based context on grammar and vocabulary learning, reading comprehension, and writing development of EFL students at ninth and sixth grades. It also tries to figure out whether there are any differences on the participants' attitudes towards learning English after the implementation of the MI activities through content. As the research objectives required making a comparison between two cases in one of which treatment was applied and in the other no treatment was applied, a quasi-experimental study with at least two independent groups was conducted. In order to set up a cause-and-effect relation minimizing the confounding effects, the researcher involved two independent groups in the study, one of which was experimental (treatment) group and the other was control group (Black, 1999; Creswell, 2002). The experimental groups are instructed through MI-based activities in a content based framework while the control groups are instructed through traditional method at both grade levels. The independent variable is the type of instruction in the current study. The independent variable (or the treatment variable) has two levels, one of which is the group that received instruction through MI based activities in a content based framework (level 1) and the other is the group that received instruction through traditional methods (level 2). Dependent variables are determined as achievement scores in grammar, vocabulary, reading comprehension and writing tests. In addition, participants' mean scores in attitude scale towards English learning are also dependent variables.

The participants of the research study are students from a high school and a primary school. 70 ninth-grade students from the Anatolian High School and 60 sixth-grade students from the Primary School in 2014-2015 academic year are the participants of the research study. As the researcher involved intact classes into the study, it is a quasi-experimental study (Black, 1999, Sproull 2002). The researcher has taken all the

precautions such as random assignment of experimental and control groups, piloting, implementation of pretests (Creswell, 2002) in order to ensure validity and reliability of the study.

In terms of the data collection instruments, the researcher applied a grammar achievement test, vocabulary test, reading comprehension test and a writing test as pretest and posttests. All of the data collection instruments except the questionnaire have been developed by the researcher in collaboration with the experts in the field of foreign language teaching. All the measurements about validity and reliability of the instruments have been conducted through pilot studies, and last versions of the tests have been applied in experimental and control groups of the study. The other instrument to investigate students' attitudes toward English language learning is an attitude scale developed by Altunay (2002). Therefore, its reliability and validity analyses have already been done and they have been reported to be enough (Alpha Reliability Coefficient is 0.96). In addition, the researcher conducted interviews with students and teachers that have participated in the study in order to explore thoroughly their attitudes towards both methods and to reach implications about whether MI-based activities are applicable in Turkish context.

Data collection procedure started with the application of pretests at the beginning of the research study. Then instructional methods have been applied at both experimental and control groups at both grade levels. In 6th grades, the instruction lasted for three weeks, that is nine hours of English while it lasted for two weeks for 9th grades, which corresponds to twelve hours of English. During the implementation process, the students' own teacher went on instructing while the researcher participated in the lessons as observer. After the implementation process, the students were given post tests. The interviewing process was done after the application of posttests.

After data collection, the analysis process started. The data collected on grammar learning, vocabulary attainment, reading comprehension and writing development are analyzed one by one with paired samples t-test and independent samples t-test in order to make both within group and between group comparisons (Dörnyei, 2011). In terms of the analysis of qualitative data collected through

interviews, content analysis has been applied. The researcher identified the codes, then relevant themes have been determined to derive implications from.

1.5. Terminology

Basic terms used in research study can be defined as following.

Multiple Intelligences Theory

Multiple Intelligences (MI) is a theory developed in 1983 by Dr. Howard Gardner, professor of education at Harvard University. Multiple Intelligences Theory suggests that “there exists a multitude of intelligences, quite independent of each other; and each intelligence has its own strengths and constraints” (Gardner, 1993, p. xxiii). As Gardner opposes the idea of a single and uniform intelligence that can be measured through intelligence tests and explained in a single score, he purposefully adds an “-s” at the end of the term “intelligence” and uses the concept of “multiple intelligences”¹ in order to refer to human cognitive skills. Gardner proposes eight different intelligences to account for a broader range of human potential in children and adults. MI-based instruction encourages differentiated learning opportunities for individuals who have distinct profiles of intelligence.

Traditional method

Traditional method is a term used to refer to the instructional applications which ignore learner differences and offer a uniform teaching based on basically linguistic and logical-mathematical abilities. All students are expected to learn the same things in the same way no matter in what area they are strong. Within the context of foreign language teaching, it is usually applied through the instruction of language forms in isolation and

¹ It is possible to come across expressions both as “multiple intelligence”, “multiple intelligence activities” and as “multiple intelligences” and “multiple intelligences activities” in literature. Within the scope of this current dissertation, the researcher takes Gardner’s purposeful use of “-s” at the end of the concept of “intelligence” (Gardner, 1983, 1993) as the basis and prefers to use “multiple intelligences” to refer to the multitude of intelligences, and “multiple intelligences activities” in order to refer to the activities conducted based on the Multiple Intelligences Theory.

out of context. The students are expected to memorize the language rules and memorize vocabulary items. In addition, language production is seen as a mechanical process of combining vocabulary items in accordance with the grammar rules. Teacher is given the central role; therefore learner characteristics are not taken into consideration when developing lesson plans or curricula.

Content-based instruction (CBI)

CBI is one of the instructional designs depending on the integration of content and language instruction. CBI tries to expose the language learners to meaningful samples of language and input in purposeful contexts while they are focusing on content. It makes use of authentic texts and materials in real life contexts and provides a learner-centered instruction. The curriculum for CBI is derived from the subject matter rather than forms, functions, situations or skills (Stryker & Leaver, 1997).

CHAPTER TWO

2. LITERATURE REVIEW

In this chapter, first the researcher presents a review of the theories of intelligence chronologically in order to describe the position of Multiple Intelligences Theory (MI Theory) as opposed to the other theories of intelligence. This review will be followed by the theoretical basis for MI theory and description of the basic conceptualizations related to human intellectual capacities proposed by MI Theory. The next section is allocated for educational implications of MI theory, presenting how MI theory can be applied in terms of a wide spectrum of issues related to instructional processes in schools such as curriculum development and lesson planning; teaching strategies that can be applied in relation to eight types of intelligences; classroom environment and assessment.

2.1. Intelligence

Intelligence has always been one of the most extensively researched constructs in the field of cognitive science; however, there still exists no single definition of intelligence on which everybody has a consensus (Conway & Kovacs, 2015; Goldstein, 2015). There are many theories trying to explain what intelligence is; however, the possibility of coming up with a definition of intelligence on which everybody agrees seems to be “virtually zero” as alternatives will continue to be existent forever (Pal, Pal & Tourani 2004, p. 185). Sternberg (2000) emphasizes the uncertainty about the definition of intelligence saying that “Looked at in one way, everyone knows what intelligence is; looked at in another way, no one does.” (p. 3). As intelligence has always been an elusive construct, it has been the topic of many research studies and theories since very early times, and it has been defined in various ways involving “the capacity for abstract thought, understanding, communication, planning, learning, reasoning, and, most importantly, problem solving.” (Goldstein, 2015). Contemporary models of intelligence are developed through the consideration and reconceptualization of previous theories of intelligence; therefore each theory of intelligence can be seen as

a step towards conceptualizing and comprehending what intelligence is in a more accurate way. While the earlier views of intelligences (e.g. put forward by Galton, Binet, Spearman, Thurstone, and Guilford) were basically psychometric claiming that intelligence could be measured through various scales, contemporary views of intelligence are more sceptical about measurability of intelligence through psychometric scales proposing multi-dimensional models of intelligence.

2.2. Theories of Intelligence

In this section, the theories of intelligence and their basic propositions will be illustrated in a chronological order depicting how views of intelligence have changed depending on the conditions of their time and the research findings in related areas such as psychology, biology, and neuroscience and brain research.

2.2.1. Francis Galton's theory of intelligence

One of the leading figures who tried to define what intelligence was and how it could be measured was Sir Francis Galton (1865). He attempted to put forward a relationship between some chronometric measures which were obtained through timed performances, anthropometric measures such as head size and intellectual capacity (Conway, Kane, Bunting, Hambrick, Wilhelm, & Engle, 2005, p. 335). He claimed that intelligence was directly related to neurological efficiency, therefore, it could be measured through some tests that measure people's reaction time and sensory acuity (Sternberg, 1997).

Francis Galton developed statistical methods in order to rank people on the basis of their physical and intellectual powers. In order to measure individuals' intelligences and compare people with each other and rank them, a number of tests that demanded the participants to accomplish some tasks were developed. Galton designed a battery of tests in order to measure auditory and visual sensory discrimination abilities, reaction times to stimuli. He believed that people with a low intelligence level would have impaired sensory discriminative capacities (Sternberg, 2000). For example, Galton developed some "anthropometric" measures, such as line bisection, in order to implement to the people in International Health Exhibition in London in 1884 (Boake,

2002). Galton's mental tests led to the production of measurement devices such as digit span tests and substitution tests. The digit span test was used by Galton and Joseph Jacobs, it consisted of oral presentation of random number sequences, such as "8-3-6-1-5" to the participant at a rate of nearly one per second. The participant was expected to reproduce the digits in the exact sequence in which they were presented. The examiner began by asking the participant to repeat only two or three digits and then would increase the number of digits in the sequence until the participant was unable to reproduce the sequence correctly. Today, digit span test is used in order to diagnose brain-damaged people; however it is not seen as the only accurate method for diagnosis because the performance on these tests can be influenced by some other factors such as anxiety, depression, being preoccupied with unrelated thoughts or brain dysfunction. Although, weak points of these tests are accepted today and they are not seen as an accurate way of understanding the presence of brain damage, during Galton's time, digit span test were seen to measure a process called as prehension defined "as the mind's power of taking on certain material" by Jacobs (1887, p.79, cited in Boake, 2002, p. 384). As it was acknowledged that without taking on first, it was not possible to take in and to comprehend; therefore, the digit span tests were seen as a way of determining mental grasp and mental capacity. Another type of tests used for having an idea about the mental operations was substitution tests devised by Jastrow (1891-1892). It was a similar battery of tests for discrimination ability, reaction times, and memory for lines, colors, and forms (Brody, 2000). Starch (1911, p. 47-48, cited in Boake, 2002) describes the test to be similar to a "typewriter keyboard in which each letter of the alphabet is enclosed with a number in circle" and there is text below that keyboard and the test-takers are expected to transcribe that text making use of the keyboard signs above. It was claimed that if "a learner is quick then s/he will be able to make the most rapid progress." Today, the mental tests used by Galton are not seen as an accurate way of measuring human intelligence anymore; however they have provided the basis for further research on intelligence and intelligence testing.

2.2.2. Alfred Binet's theory of intelligence

Although the history of the tests measuring intelligence of the individuals can be traced back to the 1800s; Alfred Binet, who was a French psychologist, (1857-1911) is

accepted as the inventor of the first test of intelligence today. Binet was a member of a French Professional group called Free Society for the psychological study of the child (SLEPE), the purpose of this group was to conduct psychological studies on the normal and abnormal children when necessary. Towards the end of the nineteenth century, French education system changed as a law that made the children at the ages of six to fourteen obliged to attend schools. When that law began to be implemented, teachers began to complain about the presence of children who were slower than their peers in their classrooms. In order to take an action to find a resolution to such a problem, the Minister of Education founded a commission which asked Binet and some specialists to study the situation in more detail. Binet thought that both schools and hospitals do not accept slow children as schools thought that they were abnormal and the hospitals thought that those children were not actually ill - as they were otherwise healthy. Therefore, he recommended that these slow children with learning or medical disabilities should have education in “special” education classes. This case required a careful process of selection in normal schools. Binet believed that a psychological approach based on observation and measurement of differences in intelligence could be adopted in order to find out precise and replicable indications of mental retardation. Within this framework, Binet and Simon produced a mental test for the first time, and it was published in 1905 (Nicolas, Andrieu, Croizet, Sanitioso, Burman, 2013).

Binet and Simon’s objective was to develop an instrument to determine a child’s level of functioning and to decide whether it was appropriate to provide that child with special education. This test is important as it resembles to a modern test in terms of its content and structure (Brody, 2000). The Binet – Simon test was comprised of thirty tasks distributed to four sub-tests in order to differentiate between so-called “idiocy, imbecility, debility and normality.” These tasks examined some basic mental abilities such as comprehension, attention, memory and imagery. Nicolas et. al (2013) presents the first version of the metric scale of intelligence as invented by Binet and Simon (see Appendix 1 and 2).

Binet introduced the concept of mental age and stated that a person’s chronological age can be different from his/her mental age which represents the age determined through the intelligence test. The participants’ level of intelligence was determined as the highest age level at which s/he achieved the tests successfully. Binet

claimed that children's mental age could be measured through that intelligence test as it was composed of tasks listed in increasing difficulty and in accordance with the age range of the participants. For example, children at lower ages were asked to memorize fewer digits while the children at higher ages were asked to memorize more digits in a memorization task (this was called as year scale). The participants were asked to perform on the tasks in the test until they could no longer give correct responses so that all levels of intellectual deficits were believed to be determined and children that were determined to have the same mental age could be grouped together. According to the performance of the children they could be grouped with other children at their level and an appropriate curriculum was planned to be administered for that group comprising of the children at the same intellectual level (Boake, 2002).

The claim that all levels of any intellectual deficits and the mental ages of the participants could be determined in a replicable and coherent way through this metric scale of intelligence led it to be used in a more widespread way. In a couple of years after the invention of Binet - Simon test, it became to be widely used in Europe and America. Goddard, who was working at a training school for children with cognitive disorders in New Jersey, translated the test into English and caused it to become popular and be used in many institutions in America (Zenderland, 1998). Another turning point for the development of the intelligence test was Terman's revision in 1916. Terman was a psychologist at Stanford University; he included adulthood into the age range of the test. In addition, in order to refer to a composed score attained from the test, he used the term "intelligence quotient" (IQ) instead of "mental age." He also added other tests such as arithmetic reasoning items, form board test. After Terman's revision, the scale was named as Stanford-Binet Intelligence Scale and it became an important measure of intelligence testing in the USA as it was seen as a valid and reliable way of intelligence testing. That test was used not only for pedagogical reasons but also for some other purposes such as for placing people in institutions, for army recruitments and for measuring the intelligence level of immigrants. The use of the intelligence tests in order to determine whether people to be admitted to army were suitable for military service made the application of the intelligence scale more and more widespread (Boake, 2002).

Today, Stanford-Binet test is seen as the basis for the invention of a term "intelligence quotient" (IQ) widely used almost in any areas; in addition, it has been

used as a model in terms of its structure and content for the development of intelligence tests claiming to determine students' academic level although it is criticized for being composed of only verbal and arithmetical tests (Popham, 2006).

2.2.3. Spearman's theory of intelligence

Spearman tried to understand whether intellectual abilities were correlated with each other or with sensory discrimination. He attempted to explain the reasons for individual variation in intelligence test scores. As a result of these efforts he developed the statistical method of factor analysis (Conway et al., 2005). Spearman reported that people who performed well on one type of mental test tended to perform well on all of the other tests, that is there was a universal positive covariation among the test scores of the participants (Bartholomew, Allerhand, Deary, 2013). Spearman hypothesized that the reason for the correlation between the variables (test scores) was the existence of a general factor of intelligence (Kane & Brand, 2003). Spearman proposed a two-factor theory of intelligence. Spearman's two-factor theory states that individual differences in test scores could be attributed to two factors which are called as a general factor, *g* and specific factor, *s*. *g* factor is common to all mental ability measurements while *s* factor is specific to each and every measurement. In addition, it is asserted that *g* and *s* are uncorrelated, and various *s*'s are uncorrelated with each other (Jensen, 1998, p. 31). *g* factor is considered to be inborn and if an individual's *g* is high, then s/he is expected to be successful in life and in intelligence tests; *s* factor is thought to be acquired from environment and an individual's *s* varies from one activity to another (Pal & Pal, 2004).

According to Spearman, *g* represented a "mental energy" as it was the pioneering source for handling mental tasks and activities. *g* factor was possessed by all individuals in various amounts. (Kane & Brand, 2003, p. 8). Within the framework of the two factor theory of intelligence, *g* factor was common to all mental activities, but all tasks did not require the same amount of *g* factor. As a result, *g* factor needed to be measured (this measurement would determine the intelligence) with a wide range of tasks as each task required the general intelligence factor in varying degrees. The specific factor, that is *s* factor, was involved in varying degrees in specific activities while *g* factor was involved in all mental activities.

Spearman's two-factor theory received a wide acceptance among psychologists and intelligence researchers; however, in 1909, Burt suggested that the two-factor theory was not adequate to explain fully the correlations among tests as it was found out that there were common factors besides *g*. Between the extremes of complete generality and complete specificity there were factors that some of the tests shared in common. Other psychologists also found that it was more reasonable to accept that there were some group factors in addition to *g* and *s*. As a result, Spearman's two-factor theory was soon replaced by a multiple factor theory of abilities. However, the theory of *g* as the common factor reflected by all mental tests remained fully intact and it continued to be the factor that was used to explain what intelligence was (Jensen, 1998; Kane & Brand, 2003).

2.2.4. Thurstone's theory of intelligence

Although Spearman stressed the importance of a single, general ability underlying the performance on mental tests, Thurstone argued that intelligence represented several separated mental faculties and he rejected the presence of a single *g* factor as proposed by Spearman (Brody, 2000). He analyzed the data collected from 240 college students and found out that there were uncorrelated primary factors that formed the intelligence. He suggested that an individual's intellectual ability should not be represented as a single IQ index. According to Thurstone, intelligent behavior did not result from a general factor, instead intelligent behaviors emerged from independent factors that he called primary abilities. Thurstone (1938, cited in Kane & Brand, 2003) identified seven factors, which he termed "primary abilities." He labeled the factors as;

- S (Spatial Visualization) - involved in any task in which the subject manipulates an imaginary object in space,
- P (Perceptual Speed) - recognizing properties of a stimulus quickly,
- N (Number Facility) - ability to do numerical computations and to solve problems,
- V (Verbal Comprehension) - knowing the definition of words,
- M (Associative Memory) - involving ability to memorize words, and numbers quickly,

I (Induction, reasoning) - finding analogies and finding rules or principles in a series of letters,

W (Word Fluency) - producing a lot of words when asked to think of isolated words at a rapid rate.

Thurstone's data was reanalyzed by Spearman and Eysenck in 1939, and by Carroll in 1993 and a general factor, that is g was found. The basic reason for the controversy was the existence of some technical problems in the application of factor analysis procedures which were newly developed. As those technical problems were solved, Thurstone acknowledged that a general factor could be accommodated in the correlations of primary (first-order) factors. As a result, psychologists that accept the existence of g propose that Thurstone's primary group factors may be helpful for understanding an individual's mental capabilities and they may suggest a way in order to explain individual differences in intelligence scores; however, the existence of a general factor should also be accepted to represent a general intelligence factor (Kate & Brand, 2003, p. 9).

2.2.5. Thorndike's theory of intelligence

Thorndike conducted some research studies on human behavior and social intelligence examining how learning depends on a consequence of behavior and association of stimuli and responses. He argued that humans could improve intelligence through learning and interacting with the external environments. Learning depends on some variables such as motivation, attitude, skills, and innate abilities. Thorndike stressed that abstract intelligence could be measured by standard intelligence tests; however the ability to see the relations among objects (mechanical intelligence) and the ability to function appropriately in interpersonal relations (social intelligence) needed to be taken into consideration for a complete picture of intelligence.

2.2.6. Guilford's theory of intelligence

J. P. Guilford stated that intelligence consisted of multiple factors proposing the Structure of Intellect (SOI) model (Kate and Brand, 2003). According to that model,

there are three components of a mental task; these are an operation, content, and a product. There are five kinds of operations: cognition (knowing), memory, divergent production (generation of alternatives), convergent production and evaluation. There are five kinds of contents, which are visual, auditory, symbolic, semantic, and behavioral. There are six kinds of products: units, class, relations, systems, transformations, and implications. As Guilford defines the subcategories as independent of each other, they can be multiplied and as a result the existence of 150 different mental abilities is suggested (Pal & Pal, 2004; Sternberg, 2000). Although Guilford's model was criticized due to the deficits in the statistical calculations, it also gained a wide acceptance among the psychologists who did not find the existence of a single *g* enough to define intelligence.

The earlier views of intelligence summarized up to now have been criticized for defining intelligence as a uniform entity that can be explained in number. However, they can be also viewed as steps towards formulation of contemporary models of intelligence. Davidson and Downing (2000) classify contemporary models of intelligence into four groups: neural efficiency, hierarchical, contextual, and complex systems models. The current views about intelligence will be summarized under these titles in the following section.

2.2.7. Neural efficiency model

This view supports that intelligence is directly related to brain; therefore, neurophysiological bases of mental ability should be discovered to understand what intelligent behavior is. It is asserted that brains of people who are highly intelligent operate more accurately and more quickly than those of less intelligent people. The use of technological techniques for measuring brain functions is thought to be providing direct measurement of the brain's efficiency. Although the possibility of the presence of a relation between physiological measures and intelligent behavior is interesting, "the mechanism by which the brain and behavior interact to produce intelligence need to be specified and more broadly tested." (Canan, 2015; Davidson & Downing, 2000).

2.2.8. Hierarchical models

If a person's performance on a task is related to that person's performance on another task, the abilities that are measured through those tasks are considered to be related to each other, and those interrelated abilities are referred as a factor (Davidson & Downing, 2000). According to the current psychometric models that propose a hierarchical structure to intelligence, the first-order factors are placed at the bottom; the second-order factors, which are broad factors, are placed above them and the third-order factors, which are broader than the second-order ones, are placed at the highest level of the hierarchy. Cattell (1963) and Carroll (1993) suggested two contemporary hierarchical models.

2.2.8.1. *gf-gc* theory

gf-gc theory was proposed by Cattell and it has been elaborated by Horn (1986, 1994). It was named as "Investment Theory" and it suggested that there were two types of intelligences called as fluid and crystallized intelligence. Fluid intelligence (*Gf*) represented the cognitive ability and the capacity to solve problems, and crystallized intelligence (*Gc*) was related to knowledge gained through education, experiences and being exposed to a certain culture. Therefore, learning was considered to be the key point which determined the relationship between those two types of intelligences (Johnson & Bouchard, 2005). Fluid intelligence was considered to be much related with biological roots of mental activities such as abstract thinking, problem solving and reasoning (Cattell, 1943, cited in Schweizer & Koch, 2002). Therefore, fluid intelligence was considered to be not influenced by cultural factors and experiences. Crystallized intelligence was thought to be attained throughout one's life experiences; verbal comprehension, semantic relations and evaluations made through experiences were regarded to be influenced by crystallized intelligence. While fluid intelligence was regarded as an innate concept, crystallized intelligence was thought to be undergoing a continuous developmental change. As one experiences and learns new things, crystallized intelligence develops (Kane & Brand, 2003). It is claimed that crystallized intelligence relies on formal education and acculturation process more than fluid intelligence. It should be stated that those two intelligences were thought to be

interrelated as fluid intelligence provided guidance for the individual to acquire cultural knowledge and culture-specific capabilities. While an individual depends on his/her fluid intelligence for dealing with various problems during infancy, as time passes s/he starts to make use of his/her knowledge base, thus crystallized intelligence is used more for solving problems (Schweizer & Koch, 2002). Standardized tests of intelligence claim to measure crystallized intelligence through vocabulary, general knowledge and verbal comprehension questions; fluid intelligence is measured through tasks requiring abstract reasoning such as series completions or analogies. Cattell's student Horn (1986) conducted a study and presented the existence of six factors related to the fluid and crystallized intelligence. These are "perceptual processing (visualization [Gv] and audition [Ga]), memory (short term [SAR] and long term [TSR]), and speed in performing tasks of both relatively trivial (clerical-perceptual [Gs]) and nontrivial difficulty (i.e., correct decision [CDS])." (Conway et al., 2005, p. 335). He based the invention of these factors on five reasons, which are individual differences in performance, developmental changes from infancy to adulthood, the relationship between psychometric performance and neurophysiologic functioning, predictions of school and occupational performance and relationship between cognitive behavior and biological relatedness (Davidson & Downing, 2000).

Cattell's theory is a hierarchical model consisting of two strata. The second-order, broad factors are found at the top of the hierarchy and the other first order factors are found at the lower stratum. First order factors which constitute a basis for the upper second order factors include Thurstone's primary abilities. The second order factors are organized according to their level of information processing. Horn (1994) suggests four levels of information processing among the second-order factors. *gf* and *gc* are at the highest level of cognitive function, which is called as relation education. *gf* includes the abilities to perceive relationships among stimuli and to comprehend implications, it depends on the functioning of nervous system. *gc* involves the abilities of verbal comprehension and comprehension of semantic relations, it depends on the skills and knowledge acquired through life experiences. The other levels of information processing suggested by Horn are; perceptual organization which includes the ability to process auditory information and to visualize information; association processing, which is comprised of the ability to acquire and retrieve information form short term

memory and sensory reception, which consists of the ability to notice and hold visual and auditory information.

2.2.8.2. Three-Stratum theory

Three-Stratum theory was presented by Carroll (1993), who conducted an analysis of 460 data collected through nearly seventy years. He concluded that more factors are needed in order to account for correlations among cognitive ability tests. He suggested a “three-stratum theory” in order to describe cognitive abilities and their relations with each other. Stratum I consists of a large number of “narrow,” specific abilities, like native-language vocabulary knowledge, ability in performing basic arithmetical operations, or ability to discriminate musical pitches. These abilities are related to the abilities existing in Stratum II. At Stratum II, there are about eight “broad” abilities, general memory and learning, broad visual perception, broad auditory perception, broad retrieval ability, broad cognitive speediness and processing speed. These abilities are influenced by g which is found in Stratum III. At Stratum III, a single factor is found, underlying all intellectual activities and possessing heritability, which is similar to the g factor suggested by Spearman (Carroll, 1993). According to Carroll (1993), factors can be considered to be correspondences of some characteristics of individuals which predict their behavior to an important extent. The factors can enable a researcher to have an idea about how well an individual can learn, remember or perform in real life situations which are out of the (beyond the) situations in which they are tested.

Although hierarchical models have important implications about what intelligence is and how it works, there are some controversial issues. For instance, Horn’s $gf-gc$ theory (two-stratum theory) does not accept the existence of a single factor, that is g , underlying all the mental activities while Carroll’s three-stratum model acknowledges that there is a single factor underlying all the mental abilities. This dichotomy between the hierarchical models suggests that a further clarification about the existence of g and about the functioning of the intellect is needed.

2.2.9. Contextual models of intelligence

The efforts to define what intelligence is and how it can be measured lead to the introduction of another model of intelligence which is contextual model of intelligence. This model stresses the fact that many research studies that have tried to determine intelligent behaviors have taken the Western culture as the reference. However, people's performances need to be assessed within the framework of this person's culture because what is considered to be intelligent behavior in one culture may be thought to be idiotic in other cultures (Berry & Bennett, 1992). The contextual models emphasize that intelligence is not a universal trait and it cannot be measured through conventional psychometric tests which assess individuals out of their cultures or contexts in which they live and become acculturated. Contextual views propose that external factors such as the cultural context of individuals need to be taken into consideration while trying to interpret research findings on intelligence, and researchers need to avoid applying their own culture's theories of intelligence in each and every context. Although contextual models need more elaboration in order to specify when and how to integrate contextual effects during intelligence research, the emphasis put by the contextual models on the influence of individuals' cultural context in their intellectual performances is an important contribution within the framework of the efforts trying to determine what intelligence is.

2.2.10. Complex systems models

Most of the models about intelligence try to describe intelligence through physiological or cognitive components. Considerable amount of research evidence suggests that "individuals process multiple, interactive and complex ways" (Teele, 2000); therefore, more comprehensive approaches to intelligence are necessary. Within this framework, complex system models propose that intelligence cannot be understood only through mental processes or external factors. These models suggest a combination of biological, hierarchical and contextual models in order to conceptualize intelligence, suggesting that intelligence is a complex system including "interactions between mental processes, contextual influences, and multiple abilities." (Davidson & Downing, 2000, p. 42). Complex systems models can be summarized as following:

2.2.10.1. Triarchic theory of intelligence

Triarchic theory of intelligence has been introduced by Sternberg (1985, 1997). According to this theory, intelligence can be best defined within the framework of a socio-cultural setting as the ways people deal with various situations determine how intelligent they are. The traditional intelligence tests focus on only one aspect of intelligence involving verbal and some arithmetical skills. However, how people react to new situations, how they adapt to a new environment or how they try to change it or how they try to find another place to live are also important indications of intelligence (Sternberg, 1997).

According to the triarchic theory of intelligence suggested by Sternberg (1985, 1988, 1997), intelligence has three aspects: First, internal (componential) aspect of intelligence involves information processing skills that are comprised of metacomponents or mental mechanisms that help individuals to solve problems and to acquire knowledge. These components occur in all cultures; however, what is considered an intelligent instantiation of these components may differ across cultures as problems and values vary across cultures. Second, external aspect involves the practical application of the components in the internal aspect to real-world contexts. It is proposed that intelligent people are successful in adapting to a particular environment, if they cannot adapt, then they can find ways to change the environment, and if it is not possible to change the environment, then they know when and how to find or select another environment which is more suitable for them. Third, the experiential aspect of intelligence involves utilizing one's experiences in order to deal with new situations and solve novel problems and automatize the procedures. Intelligent people retrieve and apply relevant information into new situations to cope with the novelty.

Sternberg proposes that a person who is strong in one aspect may not be successful in other aspects. However, he suggests that the common thing among the people that can be considered to be intelligent is the fact that they make use of their strengths and they try to compensate for their weaknesses. Within the framework of the three aspects of intelligence, Sternberg suggests that there are three patterns of intelligence he named as “analytical, practical and creative.” Analytical intelligence involves the ability to solve problems and acquire new knowledge; creative intelligence

is the ability to create or invent new things and make new discoveries. Practical intelligence involves the ability to adapt to a new environment, shape or change it when necessary or find and select another environment which is more suitable for one to live in (Sternberg, 1997).

2.2.10.2. Multiple intelligences theory

Multiple intelligences theory suggested by Howard Gardner is a complex systems model suggesting that people process information in multiple, interactive and complex ways, rejecting the idea that intelligence is a unitary ability. Gardner (1993) suggests that “an intelligence entails the ability to solve problems or fashion products that are of consequence in a particular cultural setting or community.” (p.15). According to Gardner, genetic inheritance, training, socialization in a cultural setting is influential in determining the development of one’s intelligence(s). He suggests that there are eight types of intelligences; verbal-linguistic, logical-mathematical, visual-spatial, musical, bodily-kinesthetic, intrapersonal, interpersonal and naturalist. According to MI theory, a person dealing with a task may make use of more than one type of intelligence, which means that intelligences can cooperate. However, a person who is strong in one of these intelligences may not be so in another. Therefore, while determining a person as intelligent or not, conventional methods of mental testing cannot give accurate results. Intelligences can be best measured in the contexts in which they occur naturally (Chen & Gardner, 1997; Gardner, 1983, 1993, 1993b, 1999).

2.2.10.3. Bioecological model of intelligence

This model suggests that intelligence is a function of the interactions between innate potential abilities, environmental context, and internal motivation (Ceci, 1996). Bioecological theory puts forward that people possess a system of biological resource pools and their innate abilities stem from this system. Each pool is responsible for different aspects of a person’s information-processing abilities. The way a person interacts with his/her environment determines whether an innate cognitive potential of that person will develop or not. It is claimed that a person’s neural connections become stronger if that person stimulate these connections through his/her interactions with

environment; however if the neural connections do not get enough stimuli, then they may become weaker and then may disappear. As neural connections become stronger or weaker, a person's related cognitive abilities can become stronger or weaker, as well. It is also mentioned that there may be some critical / sensitive periods during which a person's interactions with environmental resources may be of use, and beyond these periods environmental stimulations may not be of use any more. According to Ceci, Rosenblum, de Bruyn, & Lee (1997), there are two types of environmental resources: proximal and distal. Proximal resources are found in the immediate environment of a person, such as his/her interactions with his parents, friends or the objects around him/her. These interactions are believed to contribute to the development of intelligent behaviors. Distal resources are the ones that affect the structure of the proximal processes, for example parents' background, their parenting style are distal resources which affect a child's relations (that is proximal processes) with his/her parents.

In addition to the innate capacities and the environmental resources, a person's motivation to make use of these two elements is of importance in the bioecological theory. If a person is motivated to deal with a certain domain of knowledge, then s/he will have stronger mental representations about that domain, which can lead to more efficient cognitive processing and retrieval of knowledge in that domain. Motivation is seen as a factor that causes interpersonal differences in intellectual performances across various domains.

When complex systems models are considered as a whole, it can be concluded that these models conceptualize intelligence as a construct that is not a static and narrow construct which can be measured through psychometric measures out of a context. Instead, these models suggest that intelligence is a complex system composing of physiological, mental, cognitive, and contextual elements. Therefore, complex systems models base their conceptualizations about intelligence on various domains such as biology, psychometric, information-processing, and contextual approach. Besides these, all of the three models within the complex systems models support views of intelligence that are compatible with each other. For instance, Sternberg's analytic, practical and creative patterns of intelligence are applicable to Gardner's symbolic domains of intelligence (Sternberg, 1997); and the explanations of bioecological theory about how

individuals can develop their domains of intelligence are also consistent with triarchic theory of intelligences and multiple intelligence theory (Davidson and Downing, 2000).

Contemporary views of intelligence consider intelligence not as a single entity that can be easily measured and expressed through some numbers. Instead, contemporary models view intelligence as a complex and multi-faceted construct that needs to be researched from many different aspects. Contemporary models elaborate on the problematic and confusing aspects of earlier theories of intelligence. Rather than considering intelligence as an end in itself, these views suggest that intelligence can be best understood through incorporating contextual factors as well. Instead of having a unitary, static and narrow view of intelligence, contemporary models incorporate research findings from various fields such as biology, neuroscience, psychology, sociology, and psychometrics, therefore an interdisciplinary research approach is emphasized for intelligence research (Conway & Kovacs, 2015). To conclude, it is clear that each model focuses on a different aspect of intelligence; however, they all contribute to establishing a comprehensive view of intelligence setting forth new directions for further research.

2.3. Multiple Intelligences Theory (MI Theory)

As the research questions of the current study investigate the effects of MI-based activities in a content-based framework, a literature review to explore MI theory in terms of its theoretical basis, and its educational implications is essential for providing a foundation for the study. Thus, the following sections will first outline the content and implementation procedures of traditional IQ tests on the basis of the most popular IQ test (i.e. Binet-Simon Scale) and a reconsideration of the traditional IQ tests. These sections are deemed to be necessary as they provide the framework against which MI Theory has been proposed. The following sections involve the theoretical basis and foundations of MI Theory, and its implications for educational contexts in terms of issues such as curriculum development, lesson planning, teaching strategies, classroom environment, classroom management and assessment.

2.3.1. The content and application procedures of IQ tests (An example of Binet-Simon Test)

The traditional psychometric measurements of intelligence are best represented by Binet-Simon Intelligence Scale. A revision of the general properties of that scale can provide insights about the content of the traditional IQ tests and the perspective from which they view what intelligence is. For these purposes, Terman's detailed work (1916) explaining the basic premises of Binet-Simon Intelligence Scale and describing the steps for its application provides detailed information about the IQ tests (see Appendices 1 and 2 for an example of tests found in Binet-Simon IQ Scale).

Terman (1916, p. 21) lists the basic reasons for the development of an IQ test as;

1. Teachers do not have a very definite idea of what constitutes intelligence. They tend to confuse it variously with capacity for memorizing, facility in reading, ability to master arithmetic, etc. On the whole, their standard is too academic. They fail to appreciate the one-sidedness of the school's demands upon intelligence.
2. In judging intelligence teachers are too easily deceived by a sprightly attitude, a sympathetic expression, a glance of the eye, or a chance "bump" on the head.
3. Although a few teachers seem to realize the many possibilities of error, the majority show rather undue confidence in the accuracy of their judgment.

Considering these reasons, it was deemed to be necessary to develop an objective and standardized test of intelligence in order to determine individuals' level of intelligence at the beginning of the 20th century. In terms of the uses of the intelligence scale, Terman (1916) states that it cannot be used for "the discovery of exceptional ability in drawing, painting, music, mathematics; therefore, it does not provide a vocational guidance of children, telling which will succeed in business, which in art, which in medicine, etc." However, it is presented to be "capable of bounding roughly the vocational territory in which an individual's intelligence will probably permit success, nothing else preventing" (p. 29). Although it is supported that the results attained from intelligence tests need to be interpreted in the light of supplementary information such as "the subject's personal history, including medical record, accidents,

play habits, industrial efficiency, social and moral traits, school success, home environment, etc.”, it is clearly emphasized that Binet tests can enable people to forecast a child’s possibilities of future improvement.

In terms of the general nature of the scale, it is stated that the scale consists of 54 tests graded in difficulty. The easiest one is at the level of normal 3-year-old children and the hardest one is at the level of a normal adult. It is also claimed that the problems are designed to test native intelligence, not school knowledge or home training and they try to find and answer about how intelligent an individual is. The intelligence scale consists of different types of tests; the list of the tests as arranged by Binet in 1911 (cited in Terman, 1916, p. 24) is as following:

1. Age 3:
 1. Points to nose, eyes, and mouth.
 2. Repeats two digits.
 3. Enumerates objects in a picture.
 4. Gives family name.
 5. Repeats a sentence of six syllables.
2. Age 4:
 1. Gives his sex.
 2. Names key, knife, and penny.
 3. Repeats three digits.
 4. Compares two lines.
3. Age 5:
 1. Compares two weights.
 2. Copies a square.
 3. Repeats a sentence of ten syllables.
 4. Counts four pennies.
 5. Unites the halves of a divided rectangle.
4. Age 6:
 1. Distinguishes between morning and afternoon.
 2. Defines familiar words in terms of use.
 3. Copies a diamond.
 4. Counts thirteen pennies.
 5. Distinguishes pictures of ugly and pretty faces.
5. Age 7:
 1. Shows right hand and left ear.
 2. Describes a picture.
 3. Executes three commissions, given simultaneously.
 4. Counts the value of six sous, three of which are double.
 5. Names four cardinal colors.

6. *Age 8:*
 1. Compares two objects from memory.
 2. Counts from 20 to 0.
 3. Notes omissions from pictures.
 4. Gives day and date.
 5. Repeats five digits.
7. *Age 9:*
 1. Gives change from twenty sous.
 2. Defines familiar words in terms superior to use.
 3. Recognizes all the pieces of money.
 4. Names the months of the year, in order.
 5. Answers easy "comprehension questions."
8. *Age 10:*
 1. Arranges five blocks in order of weight.
 2. Copies drawings from memory.
 3. Criticizes absurd statements.
 4. Answers difficult "comprehension questions."
 5. Uses three given words in not more than two sentences.
9. *Age 12:*
 1. Resists suggestion.
 2. Composes one sentence containing three given words.
 3. Names sixty words in three minutes.
 4. Defines certain abstract words.
5. Discovers the sense of a disarranged sentence.
10. *Age 15:*
 1. Repeats seven digits.
 2. Finds three rhymes for a given word.
 3. Repeats a sentence of twenty-six syllables.
 4. Interprets pictures.
 5. Interprets given facts.
11. *Adult:*
 1. Solves the paper-cutting test.
 2. Rearranges a triangle in imagination.
 3. Gives differences between pairs of abstract terms.
 4. Gives three differences between a president and a king.
 5. Gives the main thought of a selection which he has heard read.

Figure 2.1. The tests found in Binet-Simon intelligence scale (Terman, 1916, p. 24)

Binet tests are used to judge the intelligence of a given individual by comparison to standards of intellectual performance for normal children of different ages. Therefore, the examination of the subject is started at a point in the scale where all the tests are passed successfully, the examination continues up the scale until no more successes are

possible (Boake, 2002). A subject's performance is compared with the standard for normal children of the same age.

The ratio between mental age and real age is called intelligence quotient. It is calculated by dividing mental age (expressed in years and months) by real age (expressed in years and months). It is also noted that as native intelligence is considered to improve little after the age of 15 or 16 years (Boake, 2002).

The classification of intelligence quotients is suggested to be as following:

“Above 140 Near genius or genius.

120–140 Very superior intelligence.

110–120 Superior intelligence.

90–110 Normal, or average, intelligence.

80– 90 Dullness, rarely classifiable as feeble-mindedness.

70–80 Border-line deficiency, sometimes classifiable as dullness, often as feeble-mindedness.

Below 70 Definite feeble-mindedness.” (p. 44).

As a last issue about the implementation of the IQ tests, the time duration of the examinations needs to be stated. Durations of examinations are stated to be as following:

“Children 3–5 years old 25–30 minutes; children 6-8 years old 30-40 minutes; children 9-12 years old 40-50 minutes; children 13-15 years old 50-60 minutes; adults 60-90 minutes.” (Terman, 1916, p. 68).

2.3.2. Reconsideration of content and application procedures of IQ tests

Although the IQ tests claim to be measuring individuals' native abilities, the content of the IQ tests makes it clear that most of the tasks found in the tests require the test takers to use their ability to use words; only a small proportion of the tasks are related to doing actions. Most of the tasks are considered to be not enough to determine participants' native abilities. Among the reasons why some (or most) tasks in the tests are considered to fall short of providing satisfactory criteria is the fact that the tasks are away from real life circumstances. In real life conditions, individuals are faced with

numerous stimuli which affect their reactions and the processes they follow in order to solve problems; however, in test-taking cases, the individuals are expected to understand the commands and act in accordance with what they are told besides being stimulated by a small number of stimuli provided by the examiners (Armstrong, 1999; Ayres, 1911). For instance, in a test asking students to interpret what is happening in a picture, the students have to depend on what there is in the picture; therefore, it may not be enough for them to interpret what is happening. However, if the case shown in the picture takes place in a real life setting, the students may be able to interpret the same occasion precisely depending on the real stimuli. As a result, scoring students' answers as satisfactory or unsatisfactory based on their interpretations of a picture can hardly give an idea about the intelligence level of individuals.

Another important factor influencing participants' performance is their motivations and emotions. The test takers are given tests in an artificial environment away from real life settings. The atmosphere in the testing room may influence the participants' emotions and motivation and it is more probable that they will not be able to demonstrate their full capacity. Some test takers can be frustrated, stressed or shy in front of an examiner and may not respond to questions properly. As most of the test takers see the examiner for the first time and as they are made to sit in a room which is actually unfamiliar to them, the students may feel reserved and therefore they may not reveal their full potential (Armstrong, 2000; Ayres, 1911).

It is also obvious in most of the tasks that test takers are required to dwell upon their verbal/linguistic abilities in order to comprehend the instructions and perform the tasks. As a result, if students are not talented in terms of verbal abilities, most probably they will be unable to demonstrate a performance at a satisfactory level (Gardner, 1983, 1993). As a result, their IQ score can be determined to be low, ignoring the individuals' other possible talents. In a similar vein, most of the tasks are focused on the use of mathematical/logical skills, memorization of a series of numbers in the exact order and counting backward. As a result, test takers who feel stressful in an examination atmosphere may not pay attention to series of numbers and may not remember them in their exact order; therefore they may be given a low IQ score, which actually does not depict their real potentials. The expectation of solving some problems requiring logical/mathematical abilities may not be met by many participants if they are not

interested in that domain or if they are not strong in terms of mathematical abilities (Gardner, 1983). It seems to be problematic to define intelligence based on only two areas, which are linguistic and mathematical (Christison, 2005; Gardner, 2006). Therefore, it does not seem to be so fair to state that these individuals have a low (or high) IQ without considering other areas in which they can demonstrate their full potential.

The fact that environmental factors and the experiences of individuals can also have effects on their performances is not taken into consideration in IQ tests (Armstrong, 2000, 2000b). Although it is claimed that the talents measured in these tests are actually the native ones and the individuals are expected to perform tasks that they are able to perform without any education throughout their life span, it is obvious that an important number of tasks actually require a kind of explicit instruction or a particular attention. For example, in some tests children are expected to make changes of money. If they have not been required to do so in their lives until that test, then it is not possible for them to perform such a task.

As a last but not the least issue, the reliability of the IQ tests can also be considered (Gardner, 2006). Although tests involve procedures of implementation and scoring, these processes can differ from person to person. While some examiners can be friendlier and can have a more stimulating and encouraging attitude, some others may not be so. Therefore, it is possible that an individual's performance may differ even due to the attitudes of examiners. In terms of scoring, some examiners may score a performance as satisfactory while the other may find it unsatisfactory although some examples of answers which are satisfactory or not satisfactory are given in the pamphlet about the implementation procedures of the tests, the individuals are so different from each other that an individual can come up with a totally different answer about which it can be difficult to decide to be satisfactory or not. In addition, some individuals are so imaginative and creative that it may sometimes take time for examiners to understand what they actually mean, and so they may score their answers as unsatisfactory though they are not so when considered in a more in-depth way. The creativity of individuals which is often a real source of problem solving in real life situations and which is directly related to concept of intelligence is not given place in IQ tests, making these tests insufficient to measure intelligence (Kaufman, 2015).

These considerations of IQ tests reveal that the traditional IQ tests actually view intelligence in a limited fashion. They ignore most of the individual differences and view intelligence as a unitary entity that can be measured precisely (Christison, 2005; Gardner, 1983, 1993, 2006; Hine, 1997; Stefanakis, 2002). The fact that there are many individuals who are weak in some domains but who demonstrate excellent performances in other areas is not considered. Instead, intelligence is seen as an entity which can be measured in 30 - 90 minutes and which can be expressed through a single score. Such an understanding of intelligence ignores the multi-faceted nature of human potential. As a result, the question of “How is it possible to label a person who produces wonderful works of art in drawing as feeble-minded or idiot just because of the fact that s/he has got a low score of IQ in these tests?” arises, which lead researchers such as Howard Gardner to view intelligence as a multi-dimensional concept (Gardner, 1993, 2006). In the following sections, the Theory of Multiple Intelligences (MI Theory) and its theoretical basis will be presented in detail; in addition how MI Theory views the concept of intelligence will be outlined through making comparisons with the traditional view of IQ.

2.3.3. Theoretical basis for MI theory

Through his book entitled “Frames of Mind,” Gardner (1983) challenged the traditional, unitary view of intelligence as he did not agree with the idea that intelligence could be measured through a test, and could be reduced to a single number which was seemingly revealing the intelligence level of a person. Gardner approached the concept of intelligence from a very different perspective expanding the parameters of intelligent behavior to involve numerous human abilities. Instead of trying to find out a single and quantifiable measurement of intelligence, Gardner tries to find out how different cultures influence an individual’s production of new things and serving for his/her culture (Silver et al., 2000).

The traditional views of intelligence support the belief that there is a general faculty of intelligence, called as *g*, and it is independent of factors such as age, training or experience. It is seen as an innate and static ability of the individual. However, the central idea of MI is that there are many ways for being accepted as intelligent (Barrington, 2004). Gardner’s conceptualization of intelligence incorporates three

characteristics; the ability to solve real life problems, the ability to create new problems and solve them, and the ability to make something or do some service valued in a particular culture (Gardner, 1999). Gardner acknowledged the role of heredity in intelligence; however, he also considered the role of culture in conceptualizing intelligence. According to him, different cultures value different products or services; therefore, individuals have motivations for improving themselves for solving problems or producing new things in accordance with what is valued in their own culture. As a result, while some intelligences are developed in some cultures some of them may not develop due to specific expectations of specific cultures (Gardner, 1983).

Gardner prefers to add an “s” to “intelligence” as he challenges the traditional idea of IQ theory, which supports the idea that human cognition is unitary and individuals’ intelligences can be described as a single and quantifiable intelligence. Contrary to such a reductionist view of intelligence, Gardner (1983, pp. 60 - 61) defined intelligence as:

“A human intellectual competence must entail a set of skills of problem solving – enabling the individual to resolve genuine problems or difficulties that he or she encounters and, when appropriate, to create an effective product – and must also entail the potential for finding or creating problems – thereby laying the groundwork for the acquisition of new knowledge.”

This definition clarifies that Gardner avoids viewing intelligence as a single number attained from some specific tests out of context; instead he multiplies the functions of intelligence. In addition, the ways to be intelligent are also multiplied (Silver et al., 2000). The important thing is claimed to be the process towards being intelligent not the quantity of intelligence (Chan, 2003). Another important implication of his definition of intelligence is the idea that the conceptions of intelligence should be expanded to include “human skill in dealing with diverse kinds of contents.” (Gardner, 2006b, p. 69). Instead of limiting intelligence to the skill of problem solving only through linguistic and logical/mathematical talents, the concept of intelligence should also involve other content areas such as space, music or interpersonal relations. In addition to problem solving skills, intelligent behavior needs to incorporate skills for forming new problems and for producing new things valued in a culture.

Gardner also emphasizes the importance of culture and context. For a strength to be considered as a candidate for being a type of intelligence, the basic prerequisite is that it needs to be valued within a cultural context, and it captures a range of abilities valued by human cultures. For instance, if a capacity such as identifying faces is not a very important and useful capacity for a culture, then it cannot be considered as a type of intelligence. An individual's profile of intelligence is influenced by the context and cultures in which it develops, in addition, the genetic factors also play an important role in the process of development of intelligences (Gardner, 1999).

In developing his theory of multiple intelligences, Gardner did not focus on existing tests of intelligence as his aim was not to produce a test in order to predict individuals' success or failure in schools. Instead, he summarizes the starting point of the development of his theory as following:

“My initial intuition that there were different kinds of minds led me to sample the range of cognitive end-states as thoroughly as I could, and then to seek a model that might help us to progress in explaining how these different competences develop” (Gardner, 1987, p. 80).

Gardner (2003) states that intelligence is a property of all human beings, no two people can have exactly the same profile of intelligence due to hereditary and environmental reasons; therefore, each human being is unique in terms of his/her intelligence profile. He views intelligence as “a judgment call, not an algorithmic conclusion” (p.10). Therefore, he didn't deal with the measurability of intelligence thinking that intelligence is a complex entity on which lots of variables like culture, genetic, and environment have effect (Kornhaber, Krechevsky & Gardner, 1990).

Gardner (2006b: p. 67) indicates that the starting point for the Multiple Intelligences Theory was the question of “How can we account for the diverse skills and capacities that are or have been valued in different communities around the world?” Asking this question and determining eight criteria based on different fields of study, he has concluded that all human beings possess at least eight intelligences. He suggests that all human beings possess all of the eight intelligences. He also draws attention to the individual differences stating that no two people possess the same profile of intelligences due to heredity, environment and the interactions between these two

factors. In his efforts to sample “cognitive end-states,” Gardner investigated diverse sources which had never been considered before. The development of different skills in normal children, the fact that some people with brain damages lose some of their skills while keeping others, the presence of prodigies, idiot savants, autistic children, and children with learning disabilities provide Gardner and his colleagues a wide range of different cognitive profiles which were difficult to explain through a unitary view of intelligence (Gardner, 1983, 1999, 2006). Instead of following psychometric tradition which was restricted to the measurement of faculties through brief oral questions and paper-and-pencil instruments and to psychometricians’ particular ways of handling and interpreting data through the lenses of their own cultures, Gardner decided to set forth eight separate criteria in order to name certain faculties as a human intelligence. If “a candidate faculty met the set of criteria reasonably well,” Gardner “called it a human intelligence.” (Gardner, 1999, p. 35). These eight criteria were not determined a priori; instead they were determined through searching scientific literature involving research findings in the fields of the biological sciences, logical analysis, developmental psychology, and traditional psychological research (Gardner, 1999; Gardner & Moran, 2006). Gardner didn’t limit his study to only psychometry and experimental psychology while studying intelligence concept. He also collected evidence from different disciplines like neuroscience, anthropology, cultural studies, cognitive and developmental psychology, differential psychology (Gardner & Moran, 2006). In order to define an intelligence type, Gardner developed some criteria drawn from different fields. The criteria or “signs” of an intelligence suggested by Gardner (1983, 1993) are as following:

- a. Potential isolation by brain damage: Gardner worked with individuals who had suffered accidents or illnesses that affected specific areas of brain during his work at the Boston Veterans Administration. In several cases, brain lesions impaired one intelligence, but leave all the other intelligences intact. For example, a lesion in Broca’s area (left frontal lobe) damaged that person’s linguistic intelligence to an extent that he had difficulty in speaking, reading and writing. However, he could still sing, do math, and relate to others. Such an example of brain injury can be considered as evidence about the distinctive abilities found at the core of a human intelligence.

- b. The existence of idiot savants, prodigies, and other exceptional individuals: Savants are individuals who demonstrate superior abilities in a type of intelligence while they function at a low level in other domains. For example, a person can be logical-mathematical savant, and s/he may be able calculate quickly in his mind or solve mathematical problems easily, but s/he may have poor interpersonal relations, or may have low language functioning. In addition, it is possible to come up with savants who have perfect musical ability, or who can produce excellent drawings while s/he can function at low levels in other domains of competence. These examples suggest that human intelligence can be observed in isolation and it can be claimed that there are specific intelligences responsible for specific abilities.
- c. An identifiable core operation or set of operations: Each intelligence has a set of core operations which enable the individual to carry out various activities inherent in that intelligence. Gardner likens intelligence to a computer program, as a computer program requires some operations in order to function; human intelligence also requires some core operations to function. For example, a person needs to have a sensitivity to pitch and sound as one of the core operations of musical intelligence, or bodily kinesthetic intelligence requires the existence of the ability to imitate the physical movements of others as a core operation.
- d. A distinctive developmental history, along with a definable set of expert “end-state” performances: An intelligence needs to have an identifiable developmental history, through which normal and gifted individuals pass. Intelligence cannot develop in isolation, except in an unusual person; therefore a situation in which a particular intelligence plays a central role needs to be focused on as intelligences are developed through participation in culturally valued activities. Each intelligence-based activity has its own developmental trajectory; each activity has its own time of arising, its own time of peaking during one’s lifetime and its own pattern of declining (Armstrong, 1999). However, it should be also identified that there exist disparate levels of expertise in the development of intelligence; it is plausible that people pass through a universal beginning; however some of them can

have high levels of competence, which can be seen in individuals with an unusual talent or special forms of training. It is possible that there are some distinct critical periods in the developmental history that can be linked to training or to physical maturation (Gardner, 1993).

- e. An evolutionary history and evolutionary plausibility: Gardner suggests that each intelligence has a long history and has its roots in past. For example, Armstrong proposes that musical intelligence can be traced back to archaeological evidence of early musical instruments, and spatial intelligence can be traced back to studies in the cave drawings. In addition, MI theory takes historical context into consideration in maintaining that for some societies some intelligences could be more important in the past under the specific conditions of those days while some of them are more valued nowadays. For example, naturalist and bodily kinesthetic intelligences can be supposed to be more valued in the past when majority of the population lived in rural settings, and the ability to hunt, and harvest grain was necessary. However, this case could change when that society moved to cities and began to earn their living through other professions which may demand the functioning of other intelligences.
- f. Support from experimental and psychological tasks: Gardner proposes that experimental psychology using tests comprised of tasks that interfere with one another and require an identification of forms of memory, attention, or perception can provide support for the claim that particular abilities are manifestations of the same intelligences and that intelligences work in isolation from one another. A person with a good memory for words may not be so good at remembering numbers or faces. As a result, it can be suggested that people can demonstrate different levels of proficiency across eight intelligences. In many cases, intelligences can work in isolation from each other; for example a linguistic ability may not be transferred into mathematical intelligence. However, on certain occasions, some tasks can also require an individual to make use of several intelligences and therefore, it can be seen that domain-specific abilities can also interact in order to conduct some complex tasks.

- g. Support from psychometric findings: Although Gardner is not a supporter of the standardized intelligence tests that claim to measure intelligence and find out an IQ score for each intelligence, he suggests that it is possible to look at the findings of some standardized tests for a support of the existence of multiple intelligences although they measure intelligence in a decontextualized fashion. Gardner states that if tasks claiming to measure an intelligence correlate highly with one another, and less highly with the tasks claiming to measure other intelligences can be regarded as a support for multiple intelligences.
- h. Susceptibility to encoding in a symbol system: Gardner states that much of human communication takes place via symbol systems. Symbol systems are systems of meaning which involve various forms of information. Using symbol systems is one of the most important capacities of human beings and one of the best indicators of intelligence. Gardner indicates that each of the eight intelligences he proposed has its own unique symbol systems. For example, linguistic intelligence includes all the spoken and written languages; spatial intelligence includes a range of graphic languages used by architects, designers, and engineers.

The criteria suggested by Gardner indicate that multiple intelligences theory moves beyond a narrow definition of intelligence. He believes that the existence of a group of intelligences makes more sense than a single intellect that can be expressed through a single point (Gardner, 1995). Gardner dwells upon these eight criteria in order to nominate a set of intelligences which are general and useful for explaining various human intellectual competences. In 1999, he grouped these criteria in accordance with the field they are related to. Potential isolation by brain damage and an evolutionary history and evolutionary plausibility come from biological sciences; an identifiable core operation or set of operations, susceptibility to encoding from a symbol system are derived from logical analysis; a distinctive developmental history, along with a definable set of expert “end-state” performances, the existence of idiots savant, prodigies, and other exceptional individuals are related to developmental psychology; and support from experimental and psychological tasks and support from psychometric findings are drawn from traditional psychological research.

2.3.4. Brain research and MI theory

Gardner states that his theory of multiple intelligences is based on research findings from brain-study, genetics, neurobiology, biology, psychology, and anthropology. He gives numerous examples from all of these fields in order to set ground for the introduction of the multiple intelligences theory. Gardner (1993, p. 56) states that findings from psychology (about the power of different symbol systems) and neuroscience (about the organization of human nervous system) suggest that “a mind consists of a number of fairly specific and fairly independent computational mechanisms.” The operation of these computational mechanisms can be considered to be autonomous, operating according to their own principles. He proposes that “modularity” view of brain organization complies with his theory of multiple intelligences referring to the recent views of brain organization. There is an emerging consensus about brain localization which implies that brain consists of specific regions, and each region is of more importance than the others for specific tasks and less importance for some other specific tasks (Canan, 2015; Gardner, 1993). It is not proposed that a region is the only responsible part for a specific task; instead it is suggested that numerous regions have roles for specific tasks but the importance of their roles is gradient. In addition, there are few tasks that depend on only one region of the brain. Instead, when some complex tasks (such as drawing, writing) are examined, it is seen that a number of cerebral regions send inputs in order to make a characteristic contribution to that specific task. For instance, in order to draw a picture, inputs from some structures in the left-hemisphere and from some other structures in the right-hemisphere take role for the realization of that task. If any brain structure involved in the process of a task realization is injured, then an impairment related to the role of that specific structure occurs in the process of task completion (Gardner, 1993, p. 54).

The neurobiological perspective suggests that any concern about the flexibility of development and the identity of human competences [intelligence (s)] necessitates the consideration of two basic properties of human nervous system: canalization and plasticity. The considerations about the capacities of human beings and the extent to which these capacities can be developed and educated through appropriate interventions provide the basis of the conceptualizations about intelligence and the Multiple

Intelligences Theory. Canalization refers to “the tendency of any organic system (like the nervous system) to follow certain developmental paths rather than others.” (Gardner, 1993, p. 37). Even on occasions of impairment, the organisms try to find ways to reach its normal status which is genetically programmed. The other important property of biological development is plasticity which refers to flexibility during the process of development. Plasticity is often possible at the earlier years of life, when certain parts of brain are injured it is often possible that other parts take over the roles of injured parts. However, the plasticity gets less and less as an individual gets older, thus a person who loses some parts of his/her brain is most likely to be impaired. Studies from neurobiology suggest that there are certain critical periods during the process of development. Nervous system can adapt to severe injury or experimental alteration flexibly, and the nervous system can set up new connections in order to realize the functions of injured part(s) to an adequate extent (Canan, 2015). However, if the injury or alteration takes place at a late period during the process of development, the transfer of roles may not be achieved so effectively. In conclusion, it is clear that both canalization and plasticity have considerable influence on the development of the organisms. Canalization ensures that most of the organisms will function in normal ways as programmed in their genes, and plasticity enables the organism to adapt to the circumstances even if an injury takes place in the nervous system, particularly at early ages (Saville-Troike, 2006).

Gardner (1993, p. 46) refers to findings in the field of brain research and neurobiology, and arrives at a conclusion that organisms can master particular skills “through the interplay of environmental stimulation, exploratory practice, and a predisposition to develop certain structures of the nervous system.” Research studies about the structure of nervous system put forward that the brain basically consists of two halves and those two halves do not conduct the same functions. Each hemisphere controls motor and sensory capacities on the opposite side of the body, and one hemisphere of the brain is more dominant than the other for most people determining whether a person is right-handed (if left half is dominant) or left-handed (if right half is dominant). In addition, left brain was found to be dominant for language in most right-handed individuals, and right brain was found to be dominant for visual-spatial functions. In addition, some specific cognitive functions are also connected with more

specific regions of the brain. The specification of certain regions for specific tasks has been put forward clearly particularly for language. It has been observed that an area in the left frontal lobe (called Broca's area) is responsible for the ability to speak, and a damage to that area found in left frontal lobe results in difficulty in producing grammatical speech while experiencing no difficulty in comprehension. Another area discovered to be important for language processing is Wernicke's area, and any damage to this area leads to problems in comprehending while not effecting the production of grammatical sentences (Canan, 2015; Saville-Troike, 2006). Obler and Gjerlow (1999) present the principal communicative specializations of left and right hemispheres, and state that left hemisphere is primarily specialized in phonology, morphology, syntax, function words and inflections, tone systems, much lexical knowledge while right hemisphere is specialized in nonverbal functions, visuospatial information, intonation, nonliteral meaning and ambiguity, many pragmatic abilities, and some lexical knowledge. It is also interesting that hemispheric specialization for language does not change no matter whether the language is spoken or not; for instance, sign languages for deaf people are also located in the left hemisphere (Saville-Troike, 2006).

The example about the language specialization makes it clear that cognitive and intellectual functions can be linked to particular areas of the brain which are often morphologically distinct. Studies in the field of neurology put forward evidence about the presence of functional units in the nervous system, these units can be responsible for some microscopic abilities in the individual columns of the sensory or frontal areas; and there are larger units which serve more complex human functions. Gardner (1993) considers such a specialization as a biological basis for specialized intelligences.

After a review of neurology, neurobiology, genetics and brain research, Gardner (1993) concludes that an increasing amount of evidence suggests that brain has a modular structure and such a structure sets the ground for the existence of multiple, specialized intelligences. He suggests that instead of labeling individuals as intelligent or not based on psychometric tests prepared within the framework of linguistic and logical mathematical abilities, it should be accepted that each individual is unique and has his/her own strengths and weaknesses. Intelligence is not an entity that can be minimized to a single number. Instead, individuals should be given chance to discover

their potentials and develop their capacities before it becomes too late and their brain loses its plasticity to a great extent.

2.3.5. Key points in MI theory

When MI theory is considered for practice, it is necessary to bear some significant properties of the theory in mind. Gardner (1983) states that intelligences are not the same as sensory systems. An intelligence cannot be seen as completely dependent upon a sensory system, instead intelligences are realized through more than one sensory system. In addition, lack of a sensory system does not necessitate the lack of an intelligence that seems to be directly related to that particular sensory system. Within this framework, Gardner gives the example of people who are actually blind, but who can have visual intelligence through touching.

Another important property of intelligences according to MI Theory is that each one operates according to its own procedures and has its own biological bases. Therefore, it is not proper to compare them with each other; each of them must be thought to have its own system with its own rules. The definition of intelligence emphasizes the distinction between know-how (tacit knowledge of how to do something) and know-that (propositional knowledge about the actual set of procedures involved in doing). Gardner suggests that it is helpful to think of the intelligences as sets of know-how, that is procedures for doing something. He suggests that many cultures do not have much interest in propositional knowledge; instead the act of performing something is seen important. Therefore, the definition or explanation of the concept of intelligence differs from society to society. However, the conceptualization of the concept of intelligence is always affected from some main factors such as: a) the content of knowledge essential to live in a given time, culture and place. b) Values important for society or culture. c) Educational system (Kornhaber, Krechevsky & Gardner, 1990). For example a person who knows a great amount of memorized information may be considered to be smart if educational system favors memorizing information but in another setting a person who has a high problem solving capacity may be acknowledged as smart if the system encourages problem solving abilities. Within this framework, Armstrong (1999) underlines the importance of context in the definition of the term intelligence and states that intelligence is the capacity to behave successfully in new

situations and the ability to learn from one's past experiences in life. Armstrong illustrates this case through an example pointing out that the most intelligent person in a situation when your car breaks down on the highway is a car mechanic with a junior high school education rather than someone with a PhD from a major university.

MI theory suggests that there are eight types of intelligences (this number may increase through further research, as well). Each person possesses all eight intelligences. This implies that MI theory does not claim to determine only one intelligence that describes an individual. Instead it proposes that each person has capacities in all eight intelligences; however, the degree to which they function in each person differs. For example, a person may seem to possess high levels of functioning in most of the eight intelligences. Armstrong (2000) gives J. Wolfgang von Goethe as an example for such people as he is accepted as a successful poet, statesman, scientist, naturalist, philosopher, which demand being strong in a number of different types of intelligences. Each individual has a unique profile of intelligence based on all of the multiple intelligences and his /her areas of strengths and weaknesses (Stefakanis, 2002).

It is well-known that most people are dominant in some intelligences but not in others. However, this does not mean that intelligences exist in isolation, they function by themselves, and a person with a strong linguistic intelligence will make use of linguistic intelligence in whatever s/he does. Instead, intelligences always interact with each other. Armstrong (2000) illustrates that case with an example; in order to cook a meal, a person should read the recipe (linguistic), prepare the ingredients (logical-mathematical), and put the things that s/he needs to do in order (logical-mathematical), develop a menu appropriate for the people that will eat it (interpersonal). Without interaction between the intelligences, it would not be possible to achieve even a simple task. This fact about the intelligences can also be considered as a reason for not being able to measure intelligence in isolation, out of context and to make use of only one score to determine whether one is intelligent or not.

There are a number of core operations for each intelligence, and possessing one intelligence entails various attributes. However, in order to consider a person intelligent in a specific area, it is not possible to say that this person needs to have a standard set of attributes. MI theory emphasizes the rich diversity of ways in which people show their

capacities within a specific intelligence and also between intelligences. For example, a person may not be able to read, but s/he can tell great stories; a person may not be successful in playing football, but s/he may be quite successful in gymnastics; a person may not be able to read notes, but s/he may be able to play a musical composition once s/he hears. Therefore; it is not possible to say that if a person cannot do or achieve a task which is considered to be within the realm of an intelligence, then s/he lacks that intelligence (Gardner, 1999).

2.3.6. Developing multiple intelligences

Gardner has conducted detailed studies on the effects of genetic and environmental conditions on intelligence profile (Teele, 2000), and concluded that although most people are not strong in all intelligences, almost everyone has the capacity to develop each intelligence to an adequate level of performance (or even to a reasonably high level of performance) if that person is provided with appropriate encouragement, enrichment and instruction. He gives a talent education program (Suzuki) as an example about individuals who actually have a modest level of musical endowment, but who can achieve a sophisticated level of proficiency in playing some musical instruments. This increase in the level of individual's performance can be attributed to a combination of the right environmental influences such as parent encouragement, and early instruction. Factors that are influential in the development of intelligences can be listed as follows (Armstrong, 2000, p. 17 - 18):

- a. Biological endowment: hereditary factors, injuries to the brain before, during or after birth are among the biological factors that influence development of intelligences.
- b. Personal life history: a person's experiences with parents, teachers, friends and other people play important roles in developing intelligences or in preventing intelligences from development.
- c. Cultural and historical background: the conditions of the time and the place a person is raised in and the cultural and historical developments are effective in encouraging or discouraging the development of intelligences.

Armstrong mentions about Wolfgang A. Mozart as an example for the interaction of all these factors in the development of his musical intelligence. He came to life with a strong, healthy biological endowment. His family members were already interested in music and his father was a composer. In addition, during his lifespan, arts were considered as important and people performing arts were supported by wealthy people. Therefore, it can be concluded that biological, personal and cultural factors were influential in Mozart's genius. If he had been born into a family uninterested in music, even discouraging being involved in music and if the cultural environment had been repressing productions in arts, his musical gifts would never have developed to a high level because of the factors that work against his biological endowment. This example makes it clear that not only nature but also nurture can be effective in accounting for the development of intelligences, and MI theory suggests that both of them have to be taken into consideration when dealing with issues related to intelligence.

There are some environmental factors that may promote (or not promote) the development of intelligences. Crystallizing experiences - first proposed by Feldman (1980) – and developed by Walters and Gardner (1986) are among these factors. It is possible to define crystallizing experiences as experiences which involve “remarkable” and “memorable” moments of contact of a person who has a high talent or potential in an area with some stimulus (which can be a material, another person, and an instrument) related to his/her talent (Walters & Gardner, 1986). When such a person comes across with such an experience, s/he starts to realize and explore his/her talent, manifests it and can develop himself/herself in that domain. Walters and Gardner (1986) list anecdotes about people with crystallizing experiences. One of these anecdotes belongs to a famous artist, August Renoir. He worked as a porcelain decorator during his childhood; he often visited Louvre Museum in Paris in order to get ideas for designing porcelain. One day, in that museum, he came across the sixteenth century “Fontaine des innocents” and he was stunned to see it and he tried to investigate each and every detail of the group of statues. At that moment he discovered how the sculptor could produce such a work through using draperies for making forms and figures. After that, he became more and more interested in arts and then he became a very famous artist. For Renoir, coming across with that fountain and realizing this art work was a turning point for becoming a successful artist. Before that, although he was a skillful porcelain decorator, he did not

recognize the power of sculpture to go beyond the limited world of decoration and produce art works. Armstrong (2000) gives Einstein's life as another example for crystallizing experiences. When Einstein was four years old, his father showed him a magnetic compass. Later on, when Einstein became an adult, he said that that compass triggered his enthusiasm for understanding the mysteries of the universe. This experience can be thought as the main activator of his genius and led him to start his discoveries and become one of the most important figures in the world. In these and other many similar experiences, it is seen that a person can have crystallizing experiences at anytime during his/her lifespan, they may occur in childhood and also in adulthood. In addition, it is clear from the examples above that it is not possible to identify a crystallizing experience at the moment of its occurrence. Only after that individual's behaviors are observed during the period following a crystallizing experience, it is possible to identify an experience having a crystallizing effect upon that individual's life (Walters & Gardner, 1986). Armstrong (2000) defines the case that is in contrast with crystallizing experiences using the term paralyzing experiences. Paralyzing experiences involve the experiences that block the development of intelligences. For example, if a teacher humiliates his/her student's effort to draw a picture in front of the classroom, then this student may avoid drawing pictures, and this can prevent the development of spatial intelligence. Contrary to the crystallizing experiences, paralyzing experiences involve negative emotions such as shame, anger or fear, and these emotions prevent the individual from dealing with activities related to domains and prevent intelligences from developing. Among the environmental influences that influence the development of intelligences positively or negatively, access to resources or mentor, historical/cultural factors, geographic factors and familial factors are also influential in the development of intelligences (Armstrong, 2000). If a person has a chance to have materials that are necessary to improve a specific domain, then s/he is more likely to improve his/her proclivities in that domain. On condition that the cultural environment promotes the realization of certain skills then intelligences involving those skills are more likely to develop. For example, if the cultural environment values musical production, then people who are inclined to deal with music can have chance to develop their musical intelligence. If the geographic conditions provide necessary tools or if they require people to behave in one way or

another then certain related intelligences can be improved. For example, a person living in a farm can develop his/her naturalist intelligence more easily than the others living in environments away from nature. In addition, familial factors also have key role in improving or not improving certain intelligences. For instance, if a person wants to become a musician and if his/her family supports him/her and provides the necessary opportunities, then it is more likely that this person's musical intelligence will develop. If the family encourage this person to follow the goal of having a profession other than being a musician, and therefore if this person is supported for improving himself/herself for another profession, then this person's musical intelligence is more likely to be under-developed or be developed only to some extent. Situational factors such as being obliged to take care of a large family or to help one's parents for the welfare of the family in childhood may also leave less time and opportunities for being able to improve oneself in domains in which s/he actually has an inborn talent.

2.3.7. Misconceptions about MI theory

Gardner's Theory of Multiple Intelligences has drawn attention of many people from different disciplines such as psychology and education. This case has led to the conduction of many research studies, and applications, particularly in the area of education. On the other hand, there have been some misconceptions about the theory. Gardner did not give answers or make explanations related to the misunderstandings about his theory immediately. Then, Gardner (1995) listed such misconceptions - or "myths" as he says - and responded them. In order to provide a better understanding of MI theory and not to fall into similar misconceptions, it is appropriate to mention about these myths and Gardner's responses to them:

Myth 1: As seven (or more) intelligences have been identified, perhaps seven tests and seven scores should be created.

Reality 1: Creation of a battery of tests on MI is not consistent with the basic principles of MI theory.

Comment: As the concept of intelligence in MI theory is not a result of a priori definitions and of test results, developing tests to measure multiple intelligences cannot be possible. If it is necessary to assess intelligences, it should be done in a comfortable setting with materials and with cultural roles which are familiar to

the individuals. The assessment should be done within a context not in a decontextualized setting.

Myth 2: An intelligence is the same as a domain or a discipline.

Reality 2: An intelligence is a new construct and it is not the same as a domain or a discipline.

Comment: An intelligence is a biological and psychological potential which can be realized to an extent as a result of experiential, cultural, and motivational factors. A domain is an organized set of activities within culture, characterized by a specific symbol system and operations, such as chess, gardening, and rap music. Domains can be realized through the use of several intelligences. The field is the set of individuals and institutions that decide about the acceptability and creativity of products fashioned by individuals.

Myth 3: An intelligence is the same as a “learning style,” a “cognitive style,” or a “working style.”

Reality 3: The concept of style designates a general approach that an individual can apply equally to any content.

Comment: Although style has more general connotations, intelligence refers to a capacity that is geared to a specific content in the world.

Myth 4: MI theory is not empirical.

Reality 4: MI theory is based on empirical evidence and can be revised on the basis of new empirical findings.

Comment: Before introducing his MI theory and identifying types of intelligences, Gardner referred to lots of empirical findings in his book called *Frames of Mind* (1983) from diverse fields such as biology, neuroscience, and psychology in order to base his theory on. In addition, he continuously says that his theory can be revised again and again depending on the new findings from different fields of research.

Myth 5: MI theory is incompatible with “g” (general intelligence), with hereditary accounts, or with environmental (cultural) contents.

Reality 5: MI theory questions not the existence of “g” but its province and explanatory power. In addition, MI theory is neutral about the issue of heritability of specific intelligences, and stresses the importance of genetic and environmental interactions.

Comment 5: Gardner is interested in intelligences and intellectual processes that are not covered by “g.” Besides, he rejects “inherited versus learned” dichotomy and emphasizes the importance of genetic and environmental factors on intelligences.

Myth 6: MI theory broadens the notion of intelligence so much that it includes all psychological constructs and weakens the usefulness of the term.

Reality 6: Gardner depicts this idea as wrong, stating that the standard and traditional view of intelligence was constricting the view of intelligence.

Comment 6: MI theory is about the intellect and human mind in its cognitive aspects, and it does not have any claims about issues beyond the intellect, such as personality, will, morality, attention, motivation, and other psychological constructs.

Myth 7: There are additional intelligences, like spiritual or humor intelligence.

Reality 7: Gardner states to be working on that issue.

Comment 7: Based on the criteria to add new intelligences, naturalist intelligence has been added afterwards. The list can be revised, and in these terms, Gardner talks about a possible existential intelligence, which denotes the human capacity to raise and ponder large questions.

Myth 8: There is a single educational approach based on MI theory.

Reality 8: Gardner states that MI theory is not an educational prescription.

Comment 8: MI theory was developed without specific educational goals in mind. In educational discussions, Gardner prefers to leave the ground to educators who can best determine the uses to which MI theory can be put.

2.4. Types of Intelligences in MI Theory

Gardner (1983, 1993, 1993b) suggests that there are a number of different intellectual strengths, or competences depending on the studies conducted in the field of neurobiology and psychology. However, it is not possible to arrive at a single and universally accepted list of human intelligences because the efforts to put forward a detailed list of human intellectual capacities involve research conducted in a number of different fields such as neurology, biology, psychology, neurobiology, and neurophysiology. If the range of research studies was confined to only a single area it could be possible to propose a specific list of intelligences; however that list would not encompass the whole range of human intellectual competences. The list of intelligences is developed by Gardner depending on the eight criteria described above. He states that the list of intelligences he presents is not exhaustive, but it can be stimulating for further research in the field of human competences, and it can make it easier to talk about intellect more effectively. The number of intelligences is not the focus actually, the important point is that everyone has different ways of thinking and no two people can think or learn exactly in the same way as they have different profiles of mind (Gardner, 1999).

Gardner (1983) defined seven types of intelligences. These are linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal intelligences. Later, he described one more intelligence “naturalist” and one possible intelligence “existential”. The types of intelligences presented in the MI theory and teaching strategies related to these intelligences will be described in the following sections:

2.4.1. Verbal / linguistic intelligence

Verbal / linguistic intelligence encompasses the capacity to use language in order to achieve a goal; it also involves being sensitive to spoken and written language and being able to learn languages (Gardner, 1999). In order to outline the basic characteristics of linguistic intelligence, Gardner refers to poets as they are seen to “exhibit linguistic intelligence in its fullest form” (Gardner, 1993, p. 8). He suggests that it is easy to observe the core operations of language in poets; a sensitivity to the

meaning of words, a sensitivity towards order of words, a sensitivity to the sounds, rhythms, inflections and meters of words and a sensitivity to different functions of language such as conveying information, convincing or stimulating others. Gardner states that although most of the people are not poets, they possess those sensitivities in significant levels because they need to have a command of language and have knowledge of phonology, syntax, semantics and pragmatics in order to live in this world. Gardner claims that linguistic intelligence involves the knowledge of four basic aspects of language: first, *rhetorical* aspect of language which involves the ability to use language in order to convince other people; second, *mnemonic* potential of language which refers to the capacity to remember information and events; third, using language to *explain* information in order to learn or teach something, and the last one is using language for *metalinguistic* analysis which involves the ability to use language to think about the concept of language (Gardner, 1983). Armstrong (1999, p. 9) defines linguistic intelligence as “the intelligence of words. People who are particularly smart in this area can argue, persuade, entertain, or instruct effectively through the spoken word. They often love to play around with the sounds of language through puns, word games, and tongue twisters.” In addition to using language in an expert fashion, people with a high linguistic intelligence can easily remember about the facts, they love reading and they can produce outstanding pieces of writing. Journalists, storytellers, poets, lawyers, speakers, writers can be given as examples for the people with high linguistic intelligence (Armstrong, 1999; Gardner, 1999).

Lazear (2003, pp. 29-32) summarizes basic capacities of verbal-linguistic people as “understanding the order and meaning of the words, convincing someone of a course of action, explaining, teaching and learning, humor, memory and recall, metalinguistic analysis.”

Campbell, Campbell and Dickinson (1999, p. 4) present a detailed list of the characteristics of a person with a well-developed verbal-linguistic intelligence:

- a. Listens and responds to the sound, rhythm, color, and variety of the spoken word.
- b. Imitates sounds, language, reading and writing of others.
- c. Learns through listening, reading, writing and discussing.

- d. Listens and reads effectively, understands, analyzes and remembers what has been listened or read.
- e. Speaks effectively in an understandable, persuasive and eloquent way about a variety of topics
- f. Writes effectively using appropriate vocabulary and applying the rules of grammar, punctuation and spelling
- g. Exhibits ability to learn other languages
- h. Makes use of listening, speaking, writing and reading in order to accomplish certain goals such as communicating with other people, persuading them, explaining something, comprehending information, thinking about the language itself.
- i. Tries to improve his/her language use and puts forward original works of written or oral art.
- j. Has an interest in activities related to language such as storytelling, writing/listening to poetry, journalism, and editing.

2.4.1.1. Instructional strategies for verbal / linguistic intelligence

In order to enable the “words-smart” students work in a verbal-linguistic environment, a number of strategies can be used. As people with verbal-linguistic intelligence learn best through four basic language skills which are reading, writing, speaking and listening (Silver et al., 2000), teachers can make use of activities addressing those four language skills. Those instructional strategies will be described in this section through a collection of the ideas from researchers such as Armstrong (1999, 2000), Berman (2002), Bümen (2005), Campbell et al. (1999), Demirel, Başbay, Erdem (2006), Gardner (1993, 1999, 2006, 2006b, 2006c), Lazear (2000, 2003), Saban (2005), Weber (2005).

In order to provide students with a verbal-linguistic studying atmosphere, teachers can involve the students in various listening activities. For example, teachers can tell or read stories to the students in order to raise their interest in the subject matter and help them learn easily. The teachers can make up a subject matter story in order to teach the academic content of a subject matter or s/he can explain his/her own life experiences as stories. The teachers may make use of the stories that are already

available such as biographies of people, short anecdotes from history. Stories that belong to other cultures may also be found and used in relation to the subject matter and so that other cultures can also be introduced to the students so that they can have an understanding of the culture of different people. Another listening tool can be poetry. Listening to poetry may create an entertaining, stress-free, and living environment. The teacher may bring samples of poems related to the subject matter into the classroom or s/he may ask the students to write poems and read it for the whole classroom. In order to present information, teachers can make use of lectures and by listening to lectures the students can grasp important amounts of information. The key factor for listening activities is that the teacher had better guide the students about effective listening. For that end, the teacher may give a guideline before the listening activities. That guideline may enable the students to take notes while listening. It may ask the students to find out the topic of the material that is listened, it can ask them to take notes about main and supporting points of the text. In that way the students are expected to listen for a purpose and they can listen more attentively.

Activities related to speaking can also be used in the classroom to promote verbal-linguistic intelligences of students. Speaking involves not only the skill of using words but also the skill of how people use their voice, intonation, gestures and mimics. For the students, one of the most important models of speaking is the way how the teacher speaks in the classroom. Using a wide variety of vocabulary items, caring about his/her posture, voice, mimics, the teacher may present a good model of speaking. In order to stimulate the students to speak in the classroom, the teacher can make use of a number of exercises. One way can be asking the students to tell stories. For that exercise, the teacher can guide the students by telling some stories herself/himself. S/he may help the students to find stories and can teach students some key points of storytelling such as how to begin the story, how to choose the characters, how to use voice and intonation, gestures and mimics. Another exercise for stimulating speaking can be classroom discussions. The teacher or the students can determine a topic; the teacher can give information about the purpose of the discussion. Then through asking questions, s/he can initiate the conversation. During classroom discussions the teacher needs to be careful about involving each student into the discussion through appropriate questions and techniques. For instance, s/he may use a ball and the student to whom the

ball is thrown may be encouraged to tell his/her ideas so that a case in which only some students always talk and some others keep silent can also be prevented. At the end of the discussion, the main points can be summarized and students' opinions about the discussing process can be taken for more effective discussion in the future. Memorizing can be another activity in order to stimulate students to speak. They may be asked to memorize some lines, poems or lyrics and they may be encouraged to perform in front of their friends. Asking students to do some research on a topic and give a report on that topic in the classroom can stimulate students to talk in the classroom. Through guiding the students how to give a report (for example, how it should start, what it should involve and how it should be ended) the students can be encouraged to speak in the classroom. In order to motivate the students to speak, another technique can be to conduct interviews. The teacher can form small groups and can ask the students to role play in various interview circumstances. For instance, they may be asked to imagine that they are interviewing the president, a famous singer, a footballer. The students can be given guidance on how to prepare interview questions and during role plays the teacher and the other group members can observe and can give feedback afterwards.

Activities related to reading are also important in order to provide a verbal-linguistic environment. Students can be provided with various materials from literature such as stories, novels, biographies, poems. In addition, the teacher may prepare a reading corner and s/he and the students may share interesting pieces of texts in that corner and that may also stimulate students' reading. In order to help the students to comprehend what they read and remember it easily, the teacher may ask the students to form groups and discuss what they read. In addition, the texts can be read through role plays or they can be dramatized so that a living classroom atmosphere may be found and the texts can be more easily understood.

Writing exercises can also be made use of for a verbal-linguistic classroom. Teachers can provide students with a number of alternatives to write instead of giving them a topic and asking them to write an essay on that topic as often done traditionally. For example, students may be asked to write or prepare scripts for dramas, petitions, slogans, diaries, songs, advertisements, poems, classroom newsletters, letters, dialogues, brochures, posters, booklets, interviews and so on. Teachers can guide the students through reflecting upon their writings, thinking aloud while writing. Teachers can help

the students by presenting them with some options before starting writing; can give them feedback on their writing drafts. After writings are done, s/he may ask the students to present their writing to the whole classroom or to their working group. Presentation of written work can enable the students to learn through listening and seeing different viewpoints about the same topic. The students may read each other's writings and can give feedback to each other; therefore they can help each other to refine their works. In addition, the teacher can ask the students to keep all the writing drafts so that they can see their process of writing and this may provide guidance for their further writing processes.

The activities that can be used for a verbal-linguistic learning environment can also involve preparing projects and reports, writing stories, plays or articles, keeping diaries, using dictionaries, preparing word-banks, preparing puzzles, reading aloud / silent, interviewing, being involved in discussions, writing letters, voice recording and listening to it, reading books, newsletters, playing word games, peer teaching, completing stories, finding the origins of words, preparing TV or radio programs (Bümen, 2005; Saban, 2010).

Campbell et al. (1999) suggest that technological developments give chance to the teachers and the students to present a verbal-linguistic environment. For instance, computers make the writing process easier and more enjoyable as it gives the writers the opportunity to review their pieces of writing and make changes on it besides enabling them to write using various different styles and forms. They can also add pictures, photos and sound on their texts so that they can enliven their pieces of writing. Technological devices can also give chance to the learners to communicate with people no matter how distant they are so that they can develop their listening and speaking skills.

2.4.2. Logical-Mathematical Intelligence

Gardner (1999) summarizes the content of the logical mathematical intelligence as “the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically.” (p. 42). Although logical mathematical capacities have been at the core of the many IQ tests that claimed to measure the intelligence of

individuals, Gardner opposes that this intelligence is superior to the others. Instead, he states that this intelligence enables people to handle certain kinds of problems; however it is in no sense superior to other intelligences as all the other domains have their own logics. For instance, language has its own logic; music has its logic and all these logics have their own ways of operating. All the intelligences and logics related to those intelligences may be related to each other in one way or another; however none of them can be considered to be superior to the others (Gardner, 1993).

People whose dominant intelligence is logical mathematical intelligence have the following capacities: “abstract pattern recognition, inductive reasoning, deductive reasoning, discerning relationships and connections, performing complex calculations, scientific reasoning” (Lazear, 2003, p. 8). Armstrong (2002) states that people with a logical mathematical tendency are sensitive to logical patterns and relations, statements, propositions, and other related abstractions. Categorization, classification, inference, generalization, calculation and hypothesis testing are the processes that can be used within the framework of this intelligence. Mathematicians, logicians, and scientists are among the people that can be considered to be strong in logical mathematical intelligence.

Campbell et al. (1999, p. 35) provide a detailed list of the basic properties of people who are strong in logical mathematical intelligence, these can be summarized as following:

- a. They are familiar with the concepts of quantity, time, cause and effect,
- b. They can make use of abstract symbols,
- c. They are skillful in logical and mathematical problem solving,
- d. They are able to perceive patterns and relationships,
- e. They are able to pose hypotheses and test them,
- f. They are able to use mathematical skills such as calculating, using graphic forms, and estimating.

2.4.2.1. Instructional strategies for logical-mathematical intelligence

In order to create a logical mathematical classroom environment and to enable the students make use of their logical mathematical capacities, it is possible to propose

quite a number of techniques and strategies. Lazear (2003) suggests that using abstract symbols, formulas, calculations, deciphering codes, forcing relationships, graphic and cognitive organizers, logic or pattern games, number sequences, outlining, problem solving, syllogisms can provoke logical-mathematical intelligences of the students. Researchers such as Armstrong (1999), Berman (2002), Bümen (2005), Campbell (1994, 2004; Campbell et al. (1999), Demirel, Başbay, Erdem (2006), Gardner (1993, 1999, 2006), Lazear (2000, 2003), Saban (2005), Weber (2005) in the field of multiple intelligences suggest similar strategies, techniques and materials that can be used in order to address the logical mathematical intelligences of the students. They can be combined and listed as following: classifications and categorizations, computer programming languages, creating codes, heuristics, logic puzzles and games, logical problem solving exercises, logical-sequential presentation of subject matter, mathematical problems, calculations and quantifications, science thinking, scientific demonstrations, socratic questioning, deductive logic (syllogisms, venn diagrams), inductive logic (analogies), questioning, using patterns, working with numbers (measurement, averages, calculation, probability, geometry), sequencing, finding out similarities and differences, classifications, learning based on a problem, brainstorming, preparing concept maps, preparing a timetable, preparing a strategic game about the subject matter, logic puzzles, logical-sequential presentations, and guided discovery.

The techniques and strategies do not have to be used only in areas directly related to maths and science teaching; instead they can be adapted to be used in various areas involving foreign language teaching. The strategies listed above can be described as following:

- a. Deductive logic: deductive reasoning involves proving that some specific data are consistent with generalizations. Syllogisms and venn diagrams are examples of deductive logic. The best known example of syllogism is “All men are mortal, Socrates is a man; therefore Socrates is mortal.” Syllogisms enable the students to form premises and arrive at logical conclusions. Venn diagrams are visual forms of syllogisms and enable the students to see similarities and differences visually.
- b. Inductive logic: inductive logic involves moving from particular facts to a general conclusion. Students may be supplied with pieces of information and

then they can be expected to arrive at a general conclusion. Analogy is an example for inductive learning and it refers to comparing two things in terms of their similar aspects. Analogies enable students to use their logics to see similarities between two things and arrive at certain conclusions.

- c. Mathematical thinking processes involve patterning. Codes and graphs enable the students to see patterns in order to solve problems. As they see the relationships, then it may become easier to learn new topics and remember them following the relations between topics.
- d. Calculations and quantifications can be used in areas other than math lessons (Armstrong, 2000). However, this is not to say that teachers force themselves in order to insert mathematics in every subject matter, instead they may make use of calculations and some quantifications when relevant. For example; while reading a text about the life of a sportsman in English, the time duration in which he runs a certain distance can be calculated and compared to another sportsman in real life. Such type of exercises may enliven the logical-mathematical thinkers' interest in the lesson and also enable them to see that mathematical calculations are not only related to math lessons, they are within the life itself.
- e. Classifications and categorizations involve seeing patterns and reflecting them through venn diagrams, time lines, 5W organizers (diagrams that answer who, what, when, where, and why questions), and mind maps. When students are given chance to categorize certain information under some main titles, they are encouraged to organize ideas and themes, and this process enables them to learn and remember easily and see all the relations about a subject matter in a clear way.
- f. Socratic questioning refers questioning students about their ideas. Contrary to the traditional way of instruction in which teachers act as knowledge dispensers, in Socratic questioning teachers act as guiders or questioners. Teachers try to help the students to see whether their thoughts, beliefs are correct, accurate and coherent or not and to test their hypotheses about a topic through asking questions. During Socratic questioning, teachers are involved in the dialogues with students; therefore the students are expected to arrive at

the conclusions about whether their thoughts are correct or not by themselves; that is the teacher does not give the correct answers directly. Therefore, this technique may be helpful in enabling the students to form their ideas through evaluating the facts and the events within a coherent framework instead of directly arriving at the conclusions.

- g. Heuristics is another teaching strategy which enables the learners to solve problems through trying to find analogies or trying to separate it into smaller units and then combining all the pieces. This strategy is often used in math and science; however it is possible to apply it in other fields. For instance, while trying to understand the main point of a text, a reader may divide the text into some parts, understand each part and arrive at a conclusion. Providing some logical maps or mind maps, heuristics can enable the learners to deal with unfamiliar issues and subject matter. When faced with an unfamiliar issue, a person may not know where to start dealing with that issue; at that point, finding analogies, using rules of thumb or guidelines may provide that person with a starting point and then the problem can be solved in a shorter time than expected.
- h. Science thinking can also enrich the classroom environment with different topics related to science, nature and universe. Teachers can invoke the students' attention by mentioning about a new invention or referring to a universal or natural fact. This strategy does not have to be used only in science lessons, instead, teachers of other subject matters and the teachers of foreign language can involve science thinking in their lessons. Therefore, the students can have a larger perspective about life and they can find interesting issues on which they may want to talk or discuss. Real life facts may seem to be more interesting for the students than the "made-up" scenarios.

2.4.3. Visual-spatial intelligence

Gardner (1999, p. 42) states that visual-spatial intelligence "features the potential to recognize and manipulate the patterns of wide space (those used by navigators and pilots) as well as more confined areas (such as those of importance to sculptors, surgeons, chess players, graphic artists or architects)." The basic operation of

visual spatial intelligence is being able to perceive the visual world, a form or an object accurately, to change one's initial perceptions and re-form one's visual experiences even if the related physical stimulus is not present any more (Gardner, 1993). Being able to manipulate the form or the object, imagining the form of an object if it is seen from a different angle are also operations that are involved in visual spatial intelligence. Armstrong (2000) thinks that visual spatial intelligence is directly related to pictures in one's mind and in the external world. It should be also mentioned that a person who is strong in visual spatial intelligence does not have to possess all the capacities this intelligence encompasses. A person may have an accurate visual perception, but s/he may not be so strong in drawing; s/he may make manifestations upon a physical entity in his/her imagination, however s/he may not be so powerful in judging about the differences or similarities between two objects.

Lazear (2003, p. 8) lists the basic capacities of visual-spatial intelligence as "accurate perception from different angles, recognizing relationships of objects in space, graphic representation, image manipulation, finding your way in space, forming mental images, active imagination." These capacities also put forward that visual-spatial intelligence is directly related to photographic aspect of intelligence, individuals with a strong visual spatial intelligence seem to take photos of certain objects and even of abstract reality and the space and then they can manipulate them in accordance with their needs. They can remember the photo of a place and then can replace things in that photo and can remember related details about that place easily. An important point about visual spatial intelligence is the fact that for a person's to have a strong visual intelligence; s/he does not have to be "seeing." Instead, blind people can also have dominant visual-spatial intelligence (Gardner, 1983).

2.4.3.1. Instructional strategies for visual-spatial intelligence

There are quite a number of teaching strategies that can be used to address the students' visual spatial intelligence. These can be listed as following: 3-D construction kits, art appreciation, charts, graphs, diagrams, maps, color cues, computer graphics software, creative daydreaming, draw-and-paint/computer-assisted-design software, graphic symbols, idea sketching, imaginative storytelling, mind-maps and other visual organizers, optical illusions, painting, collage, and other visual arts, photography,

picture literacy experiences, picture metaphors, videos, slides, movies, visual awareness activities, visual pattern seeking, visual puzzles and mazes, visual thinking exercises, and visualization (Armstrong, 2000); coloring, concept maps, concept cartoons, graphic organizers (Saban, 2010); preparing puzzles, preparing a story telling board, finding pictures related to the topic, underlining the text using colorful pens, video recording, preparing slides, posters or photograph album (Bümen, 2005); using visual tools, using pictorial representations, making use of visual note-taking and brainstorming tools, involving visual variety in learning material, integrating visual arts and architecture in learning process, board and card games (Campbell et. al, 1999).

The list of the strategies that can be used in relation to visual-spatial intelligence can be lengthened; the basic ones as proposed by many researchers such as Armstrong (1999), Berman (2002), Bümen (2005), Campbell et al. (1999), Demirel, Başbay, Erdem (2006), Gardner (1993, 1999, 2006), Lazear (2000, 2003), Saban (2005), Weber (2005) can be summarized as following:

- a. A visual learning environment can be set up through visual tools such as paper, chalk, pencils, markers, paints, videos, overhead projectors and so on. However, teachers need to be careful about not overloading the students with visual tools found everywhere, instead some walls, bulletin boards or certain corners of the classroom can be used for visual tools. In order to enable students to learn subconsciously, teacher can provide them with peripheral visual materials. For that end teachers can collect and display examples of group / individual works, posters, pictures, maps, texts. In addition, in order to keep the peripheral materials vivid, attractive and interesting, they should be changed often, or the students will lose their interest in those materials.
- b. Visual note-taking and brainstorming tools such as concept mapping, mind mapping, clustering can be used in order to organize information, show relations between pieces of knowledge through drawings, charts and pictures. Graphic symbols can be used to support teaching and to reach more students. When the students see the subject matter or the flow of the events through small pictures or drawings, it may become easier for them to understand and remember the topic more easily. These drawings may not be perfect but they

can be helpful for the students to form mental images of many concepts and see the relations in a clearer way.

- c. Visualization can be used in order to stimulate the learners to build up or remember a visual imagery. The teacher may want the students to use their imagination and generate images of new entities or remember the ones they have already seen.
- d. Using visual variety such as highlighting with color, involving board games and card games can attract the students' attention and emphasize the important parts of the topic.

2.4.4. Musical intelligence

Musical intelligence involves skill and sensitivity about performance, composition, and appreciation of musical patterns such as rhythm, sound, melody, pitch, timbre, color of a musical piece (Gardner, 1999). A person with a musical intelligence is able to perceive, discriminate, transform or express musical forms. Musical intelligence entail all of those capacities, however, a person who is dominant in musical intelligence may possess all or some of these capacities. Gardner (1983, 1993) states that musical talent is the first gift with which individuals are endowed. He emphasizes that people are inclined to act through rhythms and respond to them. Musical components can be seen as the first tools of communication and within this framework; Gardner (1999) proposes that musical intelligence is almost parallel to linguistic intelligence structurally. Therefore, he criticizes the earlier views of intelligence which define linguistic ability as intelligence but which define musical ability just as ability. He suggests that both of them need to be seen as intelligences; therefore, he adds musical intelligence to the list of intelligences. Campbell et al. (1999) support this view of intelligence stating that human voice and body can be utilized as a form of self expression and individuals are inherently musical as they start the first days of life with the heart rhythms of their mothers and continue their lives through their own heart rhythms; therefore it is impossible to think music apart from life. They suggest that such an inseparable part of life should also be involved in educational settings and be used to improve learning.

There are a wide range of musical abilities so it may be difficult to identify students who have musical aptitude or well developed musical intelligence. A student may have a tendency towards playing an instrument; however, s/he may not be good at composing; a student can be sensitive to rhythm; however, s/he may not be so skillful in reading notations. However, it is possible to discern some basic characteristics of people with dominant musical intelligence. Campbell et al. (1999) proposes a list as following:

- a. They are interested in a variety of sounds such as human voice, environmental sounds and music; therefore they are enthusiastic about listening to and responding to these sounds and music.
- b. They have interest in conducting, performing or dancing and talking about music.
- c. They can recognize different musical styles, genres, and cultural variations.
- d. As they are interested in music, they can have a collection of music pieces or information, and instruments related to music.
- e. They have interest in singing or playing an instrument and they can try to improve those abilities.
- f. They are willing to interpret what a composer is trying to convey through music, and they themselves can also produce original compositions.

Lazear (2003) proposes the basic capacities of musical intelligence: structure of music, sensitivity to sounds, schemas for hearing music, creating melody and rhythm, sensing qualities of a tone. All the capacities and characteristics can be suggested to have a common point which is the idea that individuals with a musical intelligence have interest in some aspects of music, no matter whether it is sound, tone, rhythm or an instrument.

2.4.4.1. Instructional strategies for musical intelligence

As music is an inseparable part of our lives, it is possible to incorporate musical activities in order to facilitate learning. Involving musical activities into learning environment can also contribute to the development of musical sides of teachers and students. Music can be used to calm the students and to help them focus their attention in the lesson. It can have a relaxing effect and enhance physical energy levels

contributing to the creation of a positive atmosphere. There are quite a number of ways in order to incorporate music into classroom environment as suggested by Armstrong (1999), Berman (2002), Bümen (2005), Campbell et al. (1999), Demirel, Başbay, Erdem (2006), Gardner (1993, 1999, 2006), Lazear (2000, 2003), Saban (2005), Weber (2005). These strategies addressing students' musical intelligence can be listed as using background music, enabling students to listen to music and discuss about the music, the feelings it evokes, its rhythm, using songs on various content areas such as science, nature, using music in order to build some skills such as spelling, reading, using music to have an understanding about the period it was composed, enabling students to read and write musical notation, writing curriculum songs related to a subject area, making musical instruments in the classroom and using instruments to produce new songs, rhythms or compositions. The following part presents elaborations on some of these strategies to provide insights about their applications:

- a. Teachers can make use of various musical recordings in order to illustrate the content that they try to convey. For instance, in order to help the students understand the conditions during a war in the past, the teacher can bring some songs or chants related to that period. Listening to such musical selections can enable the students to have a vivid picture of those days. Similarly, in order to teach a subject matter in English lessons, the teachers can make use of musical pieces related to that subject matter and through listening to that music, students can find it easier to learn and retain it.
- b. Teachers can make use of rhythms, songs, raps, and chants rhythms in order to convey main points of whatever they teach. They can present the essence of the subject matter they teach through rhythms and then encourage the students to chant those rhythms, this process can help the students to learn and remember new information in an easier and more enjoyable way. In addition, the students can also be triggered to produce chants, songs, rhythms themselves and present it to whole classroom.
- c. As it is suggested that listening to background music while trying to learn information can increase the attention of the students to the lesson so that they can concentrate on the information presented to them, teachers can incorporate background music into lessons. Background music enables

students to learn in a more relaxed and stress-free environment and less stress can lead to more learning.

- d. Musical tones can be useful in order to introduce new concepts or patterns. For example, in teaching English vocabulary items, some terms related to excitement can be said in an excited way, some words related to happiness can be uttered in a happy voice tone or some words conveying sad meaning can be pronounced with a sad tone of voice.

When all the characteristics and capacities of musical intelligence are considered, it can be concluded that each person can have a musical tendency at least to some extent. While some components of musical intelligence such as playing an instrument can appeal to certain people, another component such as sensitivity to sounds, rhythms may appeal to another person. In addition, the strategies and the techniques that can be used during lessons do not require a high level of music education or a musical talent. Through these strategies, learning and teaching processes can become more enjoyable and more successful. As music evokes the creative side of individuals, students can produce more creative products or solutions to problems instead of mere memorization (and forgetting) of ready-made information presented to them.

2.4.5. Bodily-kinesthetic intelligence

Bodily-kinesthetic intelligence involves the potential of using one's whole body or parts of the body in order to solve problems and to create new products (Gardner, 1999). Actors, athletes, dancers can be given as examples for people using their whole body; and craftspeople, sculptors, mechanics and surgeons can be counted among the people using their hands to produce or transform things. Physical skills such as coordination, balance, dexterity, strength, flexibility, speed and tactile capacities are in the center of bodily-kinesthetic intelligence (Armstrong, 2000). Bodily-kinesthetic intelligence involves the ability to unite and coordinate body and mind in order to perform physically; it also involves learning through touching, manipulating objects and working with concrete, real-life experiences. As people experience life through sensory-motor experiences, it is possible to state that bodily-kinesthetic intelligence forms the

foundation of human knowledge. The basic characteristics of people with a well-developed bodily-kinesthetic intelligence can be listed as following (Campbell et al., 1999):

- a. They like exploring the environment and objects through touching and movement, they prefer touching, manipulating, handling what is to be learned.
- b. They learn better if they are given chance for direct participation; they remember better if they do something rather than listen or observe.
- c. They have the ability and dexterity to conduct physical performances and carry out motor movements.
- d. They enjoy learning through active participation. They like concrete learning experiences such as field trips, games, role plays, assembling objects, physical exercises. They like being involved in physical environment.
- e. They demonstrate skills in acting, athletics, dancing, carving, keyboarding; therefore they have interest in careers such as those of a dancer, athlete, surgeon or builder.

Lazear (2003) puts forward basic capacities that are in the core of bodily-kinesthetic intelligence, these are; improved body functions, miming abilities, mind/body connection, expanding awareness through the body, control of preprogrammed movements, and control of voluntary movements.

2.4.5.1. Instructional strategies for bodily-kinesthetic intelligence

Passive reception of new knowledge delivered by a teacher or books can turn into a boring and ineffective process. Instead, most students enjoy moving around and active participation in the process of learning. In order to provide the students with a learning environment that gives them the chance to participate in learning actively and experience whatever they learn, it is possible to present a number of strategies. Armstrong (1999), Berman (2002), Bümen (2005), Campbell et al. (1999), Demirel, Başbay, Erdem (2006), Gardner (1993, 1999, 2006), Lazear (2000, 2003), Saban (2005), Weber (2005) give a detailed description of bodily kinesthetic strategies. These can be listed as following: establishing classroom zones, drama, creative movement,

dance, classroom games, physical education, exercise breaks, field trips, body answers, body maps, crafts, cooking, gardening, hands-on activities of all kinds, hands-on thinking, kinesthetic concepts, manipulative, mime, physical awareness exercises, physical relaxation exercises, tactile materials and experiences, using body language/hand signals to communicate, virtual reality software, and doing by showing.

It would be illustrative to elaborate on some of these strategies:

- a. Preparing classroom zones involves preparing some “zones” that serve a specific function and enable the students to move around and be involved in learning process actively. Some of these zones can involve work zones composed of spaces for individual or group works; storage zones designed to be used as classroom lockers; display zones used to display messages, art works or photographs; and library zone involving reference sources such as books, computers.
- b. Drama can be used as a way to enliven learning situations. Assigning roles to students and expecting them to act in accordance with the content that is aimed to be taught enable them to be involved in what they are learning; in addition, academic content seems to have life through the acting of students. Theatre games, role plays, creative drama and simulations are examples of drama that give opportunity to students to be in shoes of others who are often people that are related to the subject matter to be covered. Getting ready for drama or plays and performing them before the classroom or a larger audience help students to develop cognitive skills such as organizing thought, analyzing, evaluating, reasoning, collaborating with others, seeing the whole picture and also the parts of the picture. In addition, the discipline to get prepared for a play and perform it also necessary for real life situations; therefore, through trying to become successful in drama, students actually learn to become successful in real life. Instead of being instructed through abstract concepts, being actively involved in the subject matter can facilitate learners’ comprehension and retain.
- c. Creative movement involves students’ involvement in the process of problem solving and analyzing physically. Asking students to make a kite in order to study geometrics, drawing flow charts to study mathematics can be given as

examples for creative movement. This strategy can absorb students' attention to lessons and encourage them to use their creative imagination to express and comprehend a concept through their movements.

- d. Dancing can be another strategy involving bodily movement. It can provide students with opportunities to learn, synthesize and demonstrate their knowledge. Dancing can be incorporated into learning situations in various ways; for example in a language classroom, students can be asked to write a song through words they learn and dance in accordance with that song. Teachers need to be also willing to dance in order to encourage the students who are reluctant to dance.
- e. Manipulatives such as pattern blocks, plastic cubes, sticks, buttons, pebbles, pennies, task cards, puzzles, stamps can be used in a creative way in order to enhance learning and make it more concrete. Through manipulating such objects, students' tactile requirements and their developmental needs can be met as whatever a student can manipulate, transform and produce around his/her environment can ensure learning in a way that is not possible through just reading or lecture.
- f. Classroom games make it possible to involve students in imaginative, challenging situations. This involvement can enable the learners to learn social roles, to develop their decision-making and interpersonal skills besides increasing their knowledge about a subject matter. Teachers need to be careful about determining and conveying the objectives of playing games so that the students do not get lost in game and play games in accordance with the goals of the lesson.
- g. Physical education can be made a part of the lessons instead of having physical education lessons twice or three times a week. As students are often eager to participate in adventures, making them involved in some adventures that can be designed in the classrooms can be expected to increase their cooperation, creative thinking, critical thinking, intellectual and problem-solving skills. Adventurous occasions can be set up through some simple materials and students can be required to achieve a goal with their friends. It

should be always considered that all these activities have certain goals and the students act in accordance with these goals.

- h. Field trips that are well-planned and that involve certain learning goals can provide students with an opportunity for concrete and experiential learning. Students need to be made aware of the learning goals so that they will not view those field trips just as entertainment.

2.4.6. Interpersonal intelligence

Interpersonal intelligence involves the capacity to understand the intentions, motivations, and desires of other people and to work with other people effectively. Salespeople, teachers, clinicians, religious leaders, political leaders and actors possess interpersonal intelligence (Gardner, 1999). This intelligence also requires sensitivity to facial expressions, voice and gestures. Interpersonal intelligence can enable people to comprehend different signals during interpersonal relations and to respond to those signals accordingly (Armstrong, 2000). Campbell et al. (1999) propose the basic characteristics of interpersonal skilled people emphasizing that through interpersonal intelligence, individuals understand and communicate with others; they can understand the differences in moods and temperaments, they can behave in accordance with the various roles within a group. Students with interpersonal skills enjoy communicating with other people and learning through collaboration. Basic characteristics of people with a well-developed interpersonal intelligence can be summarized as:

- a. They are able to make use of a variety of ways in order to relate to others and interact with them effectively and to maintain that interaction.
- b. They are able to perceive the feelings, thoughts, motivations, behaviors and lifestyles of other people and they can empathize with others so that they can communicate with others effectively.
- c. They like participating in collaborative actions, and they can assume various roles in groups.
- d. They are skillful in adapting their behaviors to various environments and groups; they can influence others' thoughts.
- e. They are interested in careers such as teaching, social work, counseling, management or politics.

Basic capacities that are in the core of interpersonal intelligence are creating and maintaining synergy, discerning underlying intentions, behavior, and perspectives, passing over into the perspective of another, working cooperatively in a group, sensitivity to others' mood, motives, and feelings, verbal and nonverbal communication (Lazear, 2003, p. 8).

2.4.6.1. Instructional strategies for interpersonal intelligence

Basic characteristics and basic capacities related to the interpersonal intelligence suggest that people with a well-developed interpersonal intelligence have a tendency towards working with others, understanding them and being able to express themselves to the others, collaborate with them and work in groups. Therefore, planning lessons considering these basic properties of interpersonal intelligence may be expected to increase the learning level of students who enjoy working together. In order to incorporate interpersonal intelligence in lessons, there are quite a number of strategies and techniques. Armstrong (1999), Berman (2002), Bümen (2005), Campbell et al. (1999), Demirel, Başbay, Erdem (2006), Gardner (1993, 1999, 2006), Lazear (2000, 2003), Saban (2005), Weber (2005) propose a long list of these activities which include collaborative skills teaching, cooperative learning, empathy practices, giving feedback, group projects, understanding others' feelings and motives, person-to-person communication, conflict management, learning through service, developing multiple perspectives, academic clubs, apprenticeships, board games, tutoring, group brainstorming sessions, interactive software or Internet platforms, social gatherings, peer sharing, people sculptures, simulations. An illustration of the strategies about how they can be applied in the classrooms and how they can be used effectively can be as following:

- a. Establishing a positive interpersonal environment involve transforming educational settings into supportive, caring communities. When an extensive and positive interaction among students and teacher is built, classrooms have a warmer, more relaxing, and more supportive atmosphere. Students start to feel that they belong to that community and then learning is expected to increase in such an environment where positive feelings are prevalent. In

order to provide students with a feeling of being a member of the classroom, they can be involved in the process of determining classroom rules. If they themselves put some rules then they can be expected to obey them. In addition, they can be given various roles in the classroom, leadership roles can be distributed equally so that each student feels that s/he is valued within the classroom community. Class meetings can be set up so that students can come together in order to discuss and arrive at a conclusion in terms of various issues and problems.

- b. Cooperative learning activities can address students' interpersonal intelligences. Instead of encouraging for individualistic and competitive goals, students can be stimulated for working together and becoming successful as a group. Cooperation can enhance student involvement in the activities and enhance their learning; improve retention and lead to positive attitudes towards learning and towards other group members. In order to conduct successful collaborative working activities, the group members need to be made aware of the fact that a group is accepted as successful if each member of the group is able to learn the required material and group success depends on the combined score of all group members' grades (individual accountability). The group members should also know that the success of their group is based on its ability to work together in order to achieve a certain goal (positive interdependence). The teacher need to be involved in the process of collaborative working as students may not know how to collaborate and what is expected of them. In addition while forming groups teacher needs to be careful about students' properties and to help them to form appropriate groups. Another important issue is about giving roles to the members of the groups. Students can be assigned various roles so that they can become active participants in the learning process. These roles may involve some tasks such as illustrator, reporter, time-keeper, summarizer, and writer. Through collaborative activities such as jigsaw puzzles, cooperative problem solving, group discussions, students can also be taught social skills such as behaving appropriately, organizing groups, critiquing and evaluating ideas collaboratively.

- c. Conflict management processes are also related to interpersonal intelligence. Conflicts are indispensable parts of our lives; therefore it is possible that students have various conflicts in classroom environments, as well. In order to help the students to manage and resolve their conflicts, teachers can provide guidance to them. Within the conflict management process, the first step can be the identification of the possible reasons for conflict and then proposing possible solutions by members of group (all the students in the classroom) and as the last step, the best solution(s) can be selected and implemented or manipulated if necessary. Conflict management processes increase the interrelationship between the individuals in the classroom and address their interpersonal skills so that students can learn how to cope with their problems by themselves.
- d. Community service programs can also be incorporated into the curriculum. Through service programs, students can contribute to the society, and they learn becoming responsible citizens, they find chance to apply their academic studies to real life situations, they take initiative in providing service to the community. Community service programs may involve school clubs, community service as a requirement of a course, service as authentic applications of a course (for example teaching English to pre-school children or to immigrants), community service as a school-wide commitment (each department can give service to the community within its own framework. For example art students can design posters for community events; language students can write letters for elderly people).
- e. Developing multiple perspectives and appreciating differences can involve activities that enable the learners to comprehend that each and every individual is unique and there exist various individual differences among people. This can be accomplished by simple activities; for example the teacher can say a word and then s/he may ask the students to write down a word that comes to their mind when they hear that specific word. When students' answers are compared, they will be able to see that their answers and their viewpoints are actually different. They are expected to respect

differences and to live in a peaceful way no matter how different they are, and this can lead to the development of students' interpersonal skills.

- f. Peer sharing involves interaction for learning. Students are required to share a question, or some information related to the topic of the lesson. This sharing process may change from a few seconds to an hour or more. Peer sharing can also be conducted in the form of peer tutoring.
- g. Board games and some other games that can be played as groups can be used in order to stimulate students' interpersonal communication skills. While students are playing games, they not only chat with their friends, discuss solutions to solve problems related to the game, try to develop some strategies and communicate with others, they also become actively involved in learning the subject matter that is the focus of the game.
- h. Simulations and role plays can also be involved in the lessons so that students can have a chance of seeing the situation related to the target topic in a more concrete way. Simulations enable the students to be involved in the subject matter, make it become real and understand the point of views of people; therefore instead of dealing with a subject matter in an abstract way, they can see and "live" it. This process addresses their interpersonal intelligences and also bodily kinesthetic, verbal, and spatial intelligences.
- i. Involving technology such as teleconferencing, e-mailing with a friend, videotaping a performance and discussing upon it can also be included in the lessons so that students can find chances to learn through communication no matter how distant they are from each other.

As all human beings are social beings from the first moment they come to world, it can be proposed that they have interpersonal intelligence to an extent. Therefore, involving activities that address students' interpersonal intelligence can enable them to learn through social relationships, cooperation and communication. As interpersonal activities involve learning by active participation, students' interest in lesson can be always at high levels and this fact can have a positive effect upon their learning. As interpersonal relations provide the students with the feeling of belonging to a community and to a class in which they and their views are valued, the students can take

responsibility of their own learning and also their peers' learning, which can also lead to increasing level of attention and learning.

2.4.7. Intrapersonal intelligence

Intrapersonal intelligence designates the capacity to understand oneself, one's own desires, fears, capacities and to use this knowledge of oneself to organize one's life accordingly and effectively (Gardner, 1999). This intelligence includes awareness of inner moods, intentions, motivations, and the capacity for self-discipline, self-understanding and self-esteem (Armstrong, 2000). It is possible to say that theologians, psychologists, and philosophers have strong intrapersonal intelligence. Basic characteristics of intrapersonal people are listed by Campbell et al. (1999) as following:

- a. They are aware of their emotions and they can express them accurately.
- b. They can develop and pursue their goals, and they work for self-actualization.
- c. They like working independently, and they can manage their learning process.
- d. They often ask questions about the meaning of life, its purpose, and the reasons behind the events.
- e. They try to understand their inner experiences.

Lazear (2003, p. 8) suggests that basic capacities in the core of intrapersonal intelligence are concentration of the mind, mindfulness, metacognition, awareness and expression of different feelings, transpersonal sense of the self, higher order thinking and reasoning.

2.4.7.1. Instructional strategies for intrapersonal intelligence

When the basic characteristics and the capacities of the intrapersonal intelligence are considered, it can be proposed that people who are strong in this intelligence can benefit from activities demanding them to work in a self-directed and independent way. Enhancing students' self esteem, setting and achieving goals, developing thinking skills, involving emotions in education, journal writing, reflecting upon learning and life, giving chance for making choices, exposing to inspirational/motivational curricula, independent study, individualized projects and games, interest centers, personal

connections, private spaces for study, self-paced instruction, self-teaching programmed instruction are among the intrapersonal strategies suggested by Armstrong (1999), Berman (2002), Bümen (2005), Campbell et al. (1999), Demirel, Başbay, Erdem (2006), Gardner (1993, 1999, 2006), Lazear (2000, 2003), Saban (2005), Weber (2005). The strategies related to intrapersonal intelligence can be described as follows:

- a. Activities to enhance students' self-esteem can enable the teachers to have students who believe in themselves and their abilities. Students with a high self-esteem are willing to participate in classroom activities; they take responsibility of their mistakes and learn from their mistakes. In order to provide a learning environment that gives importance to the students' self-esteem, teachers can behave each student equally, students can be acknowledged appropriately, they can be encouraged to participate actively in learning activities and also in decision-making processes, they can be given chance to work collaboratively, the students can be made aware of the fact that their teacher has high expectations for each of them, and the students need to be assisted to identify their strengths.
- b. Developing thinking skills and metacognition can enable students to reflect upon themselves and think about their own thinking processes. Self-observation can lead to self-control of the individuals in academic and non-academic situations. As students take control of their own learning and thinking processes, they can make manipulations on these processes, they can change things the other way around when necessary and they can eliminate thoughts that prevent them from working appropriately and effectively. When they are given an assignment, before starting to work on that assignment, they can reflect on their thinking processes and see what they think to do, whether they have accurate knowledge related to the topic, if not how they can reach the necessary knowledge; when they complete that assignment then they can think about whether they have done it appropriately, whether something is absent or not, and if something is absent, how it can be compensated for. All these similar situations require individuals be aware of their thinking and learning processes and correct things if they are not well-done.

- c. Expressing emotions involves requiring the students to talk/write about their emotions related to the topic, activities, tasks or assignments. This can be made by asking students some questions about their feelings such as “what did you feel when you saw the picture of the lion, how did you find the music, what was the most enjoyable/boring part of the lesson?” If students are given chance to express their feelings, they can understand themselves and their viewpoints better; in addition teachers can be aware of the emotional atmosphere during lessons. In order to involve students’ emotions in the lessons, teachers themselves need to reflect their emotions about a subject matter to the classroom. For instance, s/he may show that s/he is sad when talking about wars or s/he may reflect that s/he is happy when the topic is something like playing games. The teacher does not need to be in a neutral mood always. As s/he models emotions such as excitement, amusement, anger or joy, s/he also gives place to the students to express their own emotions. When students show their feelings in the classroom, their feelings need to be acknowledged, and not criticized.
- d. Involving art in the lessons can be another way to encourage students to express their feelings. The students can be asked to reflect upon their feelings through drawing, painting, music, role plays, and writing. A careful examination of these art works can give a lot of cues about the emotional world of the students. Involving emotions in the classroom and being aware of the fact that all people have emotions and they can reflect upon their emotions can provide the students with the feeling of being valued and being a member of a community in which their feelings are given importance; as a result their motivation can be triggered and their learning may be facilitated.
- e. Goal setting is also an important characteristic of intrapersonal learners. Goal setting is an important process as goals offer concrete and tangible standards for identifying and monitoring progress. When students do not have any short-term or long-term goals in their minds, it becomes hard for them to determine a road to success, they may not know where to start, what to do, or they even may not be aware of whether they are progressing or not. As goal setting is a must for success in life, teachers need to help students to set goals. For example, teachers

can ask students to set short-term goals such as “write three things that you want to learn about the topic of the day.” The teacher may also ask students to determine goals for a longer period of time such as asking them to determine what grade they want to get at the end of the semester or which career they would like to hold after ten years. Students can be required to set goals in a few minutes or they may be asked to make a detailed plan for setting goals. The students may also be given different opportunities to express their goals through words, pictures, games or charts.

- f. Giving opportunity to make choices can also trigger intrapersonal intelligence of students as they need to return to themselves and make a decision among alternatives. This can be viewed as a self-directed learning as students select and manage their own learning processes, goals, strategies and resources to utilize; the teacher gives guidance instead of directly teaching the content. As the students make their own choices, they take more responsibility of their learning or conducting a task, which can lead to increased learning. Asking students to make a choice between two methods of doing an assignment, or giving them a chance to make a decision about the topic on which they want to write something can be given as examples. Campbell et al. (1999) mention about “self-directed learning contract” which requires the students to determine what and how to learn, a timeframe, how to demonstrate the new learned information, and ways to be evaluated. Teacher’s roles consist of working with students to identify students’ abilities, negotiating learning contracts, guiding them for resources, helping them to solve problems about planning, timeframe and resources. This process of self-directed learning enables students to follow their interests and their own ways of learning; therefore, their motivation for learning automatically increases as motivation is nurtured with interests and self-determined goals. Students’ responsibility for their own learning and their control over their learning process increase, leading to more successful results in learning experiences.
- g. Journal writing can be used as another way of addressing intrapersonal intelligence. Asking students to write journals, they can be encouraged to discover, recognize and learn new things about themselves and their feelings.

Journal writing can encourage students to write their goals and ambitions and question their vision for the future; it also enables them to explore their own identities. Writing can also increase their self-awareness, self-acceptance, self-actualization, and self-disclosure. In order to help students to start writing journals, teachers may provide guidance to them through asking them to write what they have learned that day, what they felt about their learning experience.

- h. Establishing personal connections and reflecting on the purpose of life is also commonly observed among intrapersonal students. They often ask about the connections between what they learn in school and their own lives, and purpose of life. In order to help them to answer such questions, teachers can make connections between the content that is being taught and the personal lives of their students. Such connections make learning more meaningful and clarify the purpose of life. A teacher of foreign language may ask students whether they have ever been to a foreign country or whether they have ever met a foreign person and how they have communicated on such occasions. Such questions may enable students to see the purpose of learning a foreign language in a concrete way and therefore they can determine their learning and life goals more appropriately.

The basic characteristics and capacities of intrapersonal learners suggest that these people prefer reflecting upon their own thoughts and emotions and have a self-directed and independent way of learning. The basic aim of teachers aiming at addressing students' intrapersonal intelligences needs to be providing them opportunities to see themselves as autonomous beings that possess a sense of individuality. This approach can enable these students to discover themselves better and to see their capacities, which can lead to a higher motivation for learning.

2.4.8. Naturalist intelligence

Gardner (1995) describes that a naturalist person is able to recognize flora and fauna around him/her, s/he can make distinctions about the natural world and arrive at certain consequences related to the natural world, s/he can use that ability in a productive way such as for hunting, farming. In addition, naturalist people can identify

different species and they can distinguish between the members of a group or species and they can see the relationships among different groups of natural beings and various species. These people can also see the cause and effect relationships in the nature; for example, they can see a relationship between plant type and weather condition of a certain district (Campbell et al. 1999). Being in interaction with nature can be a stimulating factor for the development of naturalist intelligence; however, lack of such an interaction does not mean that naturalist intelligence will not develop. As the skills of observing, classifying and categorizing are in the core of naturalist intelligence, these skills can also be developed through artificial objects such as stamps, cards, pictures, buttons and similar objects. As being able to observe things and to classify them seem to require the existence of a visual ability, Gardner notes that visual observation is not a requirement for the development of naturalist intelligence. Instead, people who cannot see can also discriminate among species or some other human-made items by touching or listening to their sounds. Basic characteristics of naturalist people are listed by Campbell et al. (1999) as following:

- a. They like exploring their environment and observing, identifying, interacting with and caring for objects, plants or animals.
- b. They are interested in recognizing the patterns among species or objects and seeing the relationships among them. Through this recognition, they like categorizing objects, animals or plants according to their characteristics.
- c. They are interested in learning taxonomies for plants, animals or various objects around them and they also try to develop new taxonomies for them.
- d. They want to understand how life-cycles take place in nature and they also try to understand how things work.
- e. They like working with tools such as binoculars, microscopes, telescopes in order to observe objects or organisms around them.
- f. They can be interested in careers related to biology, ecology, chemistry, zoology or botany.

Gardner states that basic capacities of naturalist intelligence are observing, reflecting, making connections, classifying, integrating and communicating with nature. In line with Gardner's point of view, Lazear (2003) lists the basic capacities of naturalist intelligence as "communication with nature, caring for, taming, and

interacting with living creatures, sensitivity to nature's flora, recognizing and classifying species, growing natural things" (Lazear, 2003, p. 8).

2.4.8.1. Instructional strategies for naturalist intelligence

In order to stimulate students' naturalist intelligence, a variety of techniques and strategies that can be used in the classrooms are offered by many researchers such as Armstrong (1999), Berman (2002), Bümen (2005), Campbell et al. (1999), Demirel, Başbay, Erdem (2006), Gardner (1993, 1999, 2006), Lazear (2000, 2003), Saban (2005), Weber (2005). These strategies involve establishing a naturalist learning environment, involving naturalist curricular themes, improving observations, hypothesizing and experimenting, perceiving relationships, setting up naturalist learning corners, naturalist activities at outdoors, involving nature-related objects in the classroom such as aquariums, terrariums, class weather station, eco-study, gardening, nature study tools, videos, films, movies related to nature, and nature walks. Some of these strategies can be explained in detail:

- a. Naturalist learning environment can be set up in order to stimulate students' naturalist intelligence. For that end, teacher may provide students with pictures related to nature, and may require them to think about these pictures and make inferences about life, world and life cycles. Moreover, a classroom museum can be made up and some collections addressing students' interest and related to the topics studied in the class can be displayed in these museums. Naturalist learning centers can also be set up. These centers can involve specimens from nature such as stones, leaves, flowers, various plants, shells; and also various equipment for collection and observation such as microscopes, binoculars, thermometers, scales, markers, papers, pens, notebooks, garden tools, plant pots etc. Such naturalist centers can teach students about natural phenomena and establish connections between nature and their curriculum. These centers also encourage observation, exploration and experimentation. In order to hold students' attention vivid, the content of these centers can be changed regularly and new activities can be added.
- b. Curriculum themes can be designed in relation to nature. Teachers and students can brainstorm about how to relate what they study to nature.

Concepts emerging from naturalist sciences can support and enrich the study of other disciplines. Armstrong (2000) suggests that ecology shouldn't be just a unit or a course that is studied in isolation; instead, it should be integrated into each part of curriculum. In foreign language teaching, teachers can provide students with materials related to nature and whole class can try to think about the events in nature; students can also be required to find out various themes related to nature and they may be expected to read, write or think about these themes.

- c. Students can be encouraged to make observations about nature. For that end, students can be taken out for nature walks at an appropriate distance. Observing nature can reinforce what is taught in classrooms through vivid examples. Walking around in nature and making observations can enable students to have ideas for creative productions for each course in the curriculum. Before nature walks, students need to be given information about what to observe and how to observe as nature presents numerous objects that can be observed. However, if students have a frame in their minds, then they can behave more selectively about the things to be observed. For that end, students can be provided with some questions such as “how is the weather, what kind of plants can you see around, which plants are more common, what are the basic characteristics of plants/animals you see around?” Observations about nature can also be done through looking out the windows. Students can be required to make connections between what is taught in the classroom and what they see in nature, they can be asked to produce metaphors, put forward a creative production which relates the target subject matter to an object in nature. Another way of making observations can be bringing plants and some pets into the classroom. By observing how plants grow up and what changes occur throughout time, and how the pet behaves on different occasions, students can have a chance of having connections to nature and establish a connection between what they learn and what they experience. Scientific skill of making observations can be developed through close observations conducted on the plants and the pets in the classroom. In addition, having

plants and pets in the classroom can also encourage the students to feel a sense of caring for nature's beings.

- d. Activities requiring students to perceive relationships between objects in nature and to classify them also stimulate their naturalist intelligence. For that end, they can be asked to bring various objects found in nature to the classroom. Then they can be required to observe them closely, to find out similarities and differences between the objects and classify them according to their basic characteristics. In order to enable students to develop their observing and classifying abilities, they can be asked to make collections, as well. Students and teachers can decide together what to collect in relation to the lesson. During the process of collecting, teacher should guide students what to collect, how to collect them and how to preserve them. After collection is completed, the students can be asked to categorize the collected material in accordance with their properties.

Naturalist learners learn best through nature; therefore forcing these students to learn target subject matter in the classrooms that have not any connection to nature leads to a dramatic decrease in their attention towards what is taught. In order to avoid such a negative situation, various strategies can be used in order to establish a connection between nature and curriculum. Even a small plant, a stone can lead to an increase in the students' attention toward lesson as long as teacher tries to connect a natural object to whatever s/he teaches. Instead of building up thick walls between nature and classrooms, it is more desirable to open windows to nature for effective learning supported by the skills of observation, classification, categorization and experimentation.

In addition to the eight intelligences described above, Gardner (1999) also considers the probability of adding spiritual and existential intelligences to the list of intelligences. However, he is not convinced about defining these realms as intelligences when they are considered in terms of the eight criteria described above.

2.4.9. Existential intelligence

Howard Gardner proposes that the list of intelligences that he presented is not exhaustive; he suggests that the number of the intelligences can be increased and the theory of multiple intelligences can be enlarged. However, this should be done based on careful application of the set of criteria proposed by him in 1983. Within this framework, Gardner handled the possibility of a ninth intelligence called existential intelligence. Gardner (1999, p. 60) defines existential intelligence as “a concern with ultimate life issues.” He proposes the core ability for existential intelligence as “the capacity to locate oneself with respect to such existential features of the human condition as the significance of life, the meaning of death, the ultimate fate of the physical and the psychological worlds, and such profound experiences as love of another person or total immersion in a work of art.” Gardner states that he is not proposing a spiritual, religious or moral intelligence based on some specific truths proposed by specific individuals, groups or institutions. Instead, he suggests that the ultimate questions of life involve questions such as “Who are we? Where do we come from? What does the future hold for us? Why do we exist?”. Therefore, any interpretation of human intelligence(s) needs to address efforts to find answers for such questions. There is a room in the definition of existential intelligence not only for religious or spiritual roles such as theologians, shamans, priests, imams, but also for nonreligious or nonspiritual roles such as philosophers, writers, artists and scientists and other people asking such deeper questions as a part of their creative work (Armstrong, 2000).

Gardner has considered existential intelligence in terms of including it into MI theory on the basis of eight criteria proposed by him in *Frames of Mind* in 1983, this evaluation can be summarized as;

- a. Cultural value: All cultures have religions, mystical or metaphysical systems for dealing with existential issues. In addition, aesthetic, philosophical and scientific works and systems also address such issues.
- b. Developmental history: When the lives of well-known philosophical, religious, spiritual individuals are considered, it can be found out that those

people had an early-emerging concern for cosmic issues, which reached more advanced levels of understanding of these issues in adulthood.

- c. Symbol systems: Most societies have developed different kinds of symbols or images that they use in order to communicate about existential themes.
- d. Exceptional individuals (savants): It is possible to find many individuals who are said to possess a deeper wisdom and understanding and capacity to ask existential questions although they have a low IQ or lack capacities of the other intelligences.
- e. Psychometric studies: Certain personality assessments purport to measure traits of “religiosity” or “spirituality,” although there are certain problems inherent in obtaining quantitative measures of experiences that are by definition nonquantitative.
- f. Evolutionary plausibility: Gardner states that being involved in thinking about existential issues was common among human beings in ancient times, as well. Early art, dance, myth, and drama dealt with cosmic and existential themes in an implicit or explicit way. Gardner also presupposes that existential capacity is a distinctive trait of human beings like language, as it may be deemed that being concerned with existential issues requires the presence of human consciousness.
- g. Brain research: It has been found out that individuals with temporal-lobe epilepsy sometimes show signs of “hyper-religiosity.” In addition, there is a growing body of evidence suggesting that people experiencing a great amount of pain (physically or psychologically) prefer to go beyond their habitual world and beyond their usual categories of experience and try to reevaluate their relationships with external world. It can be even suggested that people may try to find answers for the reasons of pains and this can lead them to think about existential issues. A similar case can occur even in the absence of pain; when people are immersed in the execution of an activity, they may lose all sense of time and space. It has been found that certain brain centers and neural transmitters are mobilized during these states. An investigation on the religious attitudes of identical twins reared apart suggests that there is a

strong link in terms of their religious attitudes; this case can suggest a possibility of heritability in existential capacity.

After evaluating existential intelligence within the framework of the criteria set for determining intelligences, Gardner (1999) concludes that existential intelligence appears to fit with the eight criteria only to some extent, and there is not much empirical psychological evidence. Therefore, he has not added it as a ninth intelligence to the list of multiple intelligences. Instead, he prefers to tell that there are “8½ intelligences” (p. 66). However, Armstrong (2000) suggests that existential intelligence can be taken seriously by teachers while planning curriculum and it is possible to explore some potential applications of this candidate intelligence to the curriculum.

2.4.10. The issue of moral intelligence

When Gardner proposed a list of intelligences, he tried to describe those intelligences as “morally neutral and value free.” However, most people wonder about whether there is something as “moral intelligence.” According to Gardner (1999), if the possibility of existence of a moral intelligence is considered, first of all, the domain of “the moral” has to be identified as morality can be considered as a subcomponent of cultural values and whether people adopt these value systems or not depends on their personal decision instead of being a result of a moral intelligence.

Throughout the history, scholars have tried to delineate a moral domain, in their attempts they have focused on the relations between moral action and moral judgment, the possibility of a universal moral code and the concepts of truth and justice. However, it has not been still possible to arrive at a certain definition of “the moral” that satisfies all people concerned with this issue. Trying to conceptualize what morality is, Gardner (1999) tries to include all the themes discussed by the scholars in his definition, and he also tries to find out the relations between intelligence and morality. In Gardner’s definition of moral domain, he thinks “central to a moral domain is a concern with rules, behaviors and attitudes that govern the sanctity of life – in particular, the sanctity of human life and, in many cases, the sanctity of any other living creatures and the world they inhabit.” (p. 70).

As an answer to the question of whether there is a moral intelligence, Gardner states that it is not possible. The basic reason is the fact that it is not possible to define a moral domain. He proposes that moral domain involves having a consideration for respect for human life. However, within the framework of sanctity of human life, determining what is proper or improper, right or wrong, just or unjust is controversial in terms of many issues. In addition, moral codes can be different from one society to another and acknowledging only one specific moral code would not be a scientific approach. As it is difficult to acknowledge a moral domain that is common to everyone, it is difficult to identify people as more or less morally intelligent, and the term moral intelligence would not be acceptable as it does not depend on obtainable, reliable, objective data although all the other eight intelligences do. As cultural values play important roles in the development of morality within its own boundaries, it is not possible to determine the essence of morality accurately. According to Gardner (1999), instead of talking about a moral intelligence, it is possible to propose that moral realm involves a realization that one's behaviors towards other people reflect the results of contextualized analysis and the exercise of his/her will to behave in one way or another. Moral domain involves not only sophistication of a philosophy but also a person's willingness to have certain roles towards other people, and this process may require using a wide range of intelligences from linguistic to interpersonal. As a result, it can be concluded that morality is a statement about a person's character and personality, and a result of his / her willingness to behave in a certain way instead of being a specific type of intelligence.

2.4.11. The issue of spiritual intelligence (SQ)

The concept of spirituality and its applications have been widely discussed and researched not only in their private areas such as religion, but also in science and academic domains in recent decades (Esmaili, Zareh, & Golverdi, 2014). Spirituality has been seen as a concept related to beliefs, values and religious beliefs (Selman, Harding, & Speck, 2011). It is defined as "the energy, meaning, goal and awareness in life" (Cavanagh, 1999, p. 192). It is also defined as "the innate human need to connect with something larger than ourselves" (Wigglesworth, 2002, p. 3). This "something

larger than ourselves” is deemed to be beyond a person’s restricted sense of self, Wigglesworth (2002) states that this thing can be something “sacred, divine, or timeless” which can be “ a Higher Power, Source, Ultimate Consciousness.”

Zohar & Marshall (2004) stress that spiritual intelligence (SQ) does not have to be related to religion. A person with a high SQ may not possess any religious faith or belief. Similarly, a very religious person may have a low SQ. Religions involve specific set of customs, beliefs and values and a person’s religious beliefs are shaped by the culture and the experiences. However, it is claimed that SQ is “an *innate* capacity of the human brain” and it is “*pre-cultural*” (Zohar & Marshall, 2004, p. 65).

It is believed that a person with a high SQ can respond to various situations in an appropriate way; in addition, this person questions the reasons for being in that particular situation and also tries to find answers to the question of how to make the present situation better. A person with a high SQ tries to exceed the boundaries (Singh & Sinha, 2013). While acting with compassion and wisdom, a spiritual person keeps his/her inner and outer peace no matter whatever the situation is (Wigglesworth, 2012). The basic components of SQ are listed as the ability to deal with adversities and problems and even turn them into opportunities, values and vision, self-awareness, independency (courage), variability, holism, being spontaneous, the ability to re-frame of issues, tend to ask why (Zohar & Marshall, 2004). Spiritual intelligence is proposed to be developed through “practices for training attention, transforming emotions, and cultivating ethical behavior.” (Vaughan, 2002, p. 19).

In short, spiritual intelligence is related to people’s inner life of mind and spirit. It implies a capacity for a deep understanding and awareness of spirit as the basis of existence and insights into multiple levels of consciousness. SQ is considered to be beyond mental ability connecting “personal to the transpersonal and the self to spirit.” It also involves an “awareness of our relationship to the transcendent, to each other, to the earth and all beings.” (Vaughan, 2002, p. 20)

Gardner (1999) states that the realm of spirituality puts forward a complex picture in order to arrive at a decision about whether there is a spiritual intelligence or not. The basic reason is the fact that spiritual field is not as straightforward as the other fields of science and it does not have an ontological status such as language, space,

nature or music. It is difficult to determine the content of spirituality; therefore, it is difficult to delineate the core capacities of a spiritual intelligence. However, Gardner tries to evaluate whether it is possible to identify a spiritual intelligence. He handles spiritual as a concern with cosmic or existential issues. Spirituality involves a desire to know about the mystery of our existence, death, life, and to ask questions such as who we are, where we come from, why we exist. In order to think about such issues, people tend to adopt a set of beliefs or a traditional version of spiritual knowledge. At that point, determining the content of spiritual knowledge becomes a problematic and controversial issue as it may change from one culture to another. Gardner states that another variety of spirituality is an achievement of a state of being. Spiritualists argue that there is a specific content to which only those who have followed a certain path can have access. However, it is not possible to measure the attainment of a state of spiritual truth. Therefore, the attainment of a certain state of being is controversial and problematic within the framework of cognitive investigation as it is not a domain that involves some kind of problem solving or product making. As intelligence conveys the ability to solve problems, produce new products and also put forward new problems, spiritual realm does not involve these basic properties of being identified as a type of intelligence. Therefore, Gardner (1999) does not prefer to add spirituality as a type of intelligence.

2.4.12. The issue of emotional intelligence (EQ)

The role of emotions is often deemed to be of crucial value in human life. Therefore, the existence of emotional intelligence has been continuously discussed in scientific fields such psychology and education. Goleman (1995) suggests that the construct of emotional intelligence includes a number of specific social and communication skills affected by the comprehension and expression of emotions. Emotional intelligence is proposed to involve the capacity to be aware of one's feelings and other people's feelings, as well. It also includes the capacity to motivate ourselves and manage emotions in ourselves and in our relations. Therefore, self awareness, self-regulation, motivation, empathy, and social skills are among the competencies of emotional intelligence (EQ) (Goleman, 1998). Emotions are usually defined as "internal events that coordinate many psychological subsystems including physiological

responses, cognitions, and conscious awareness.” (Mayer, Caruso, & Salovey, 2000, p. 267). Mayer and Salovey (1995) suggest that emotional intelligence consists of three categories which are appraisal and expression of emotions, regulation of emotions and utilization of emotions in solving problems. It is considered that emotional intelligence can be assessed by asking people to solve some emotional problems, such as describing the emotions found in a story or another art work, and through evaluating the test takers’ answers on the basis of accuracy criteria (Mayer, DiPaolo, & Salovey, 1990). However, it is also discussed that many test methods involve asking people about their personal and self-reported beliefs about their emotional intelligence, which often yield unreliable and invalid measures (Mayer et al., 2000).

Gardner (2006) does not include emotional intelligence in the list of intelligences. He considers that emotions are not contents to be processed; and emotional intelligence is conflated with a certain preferred patterns of behavior. Therefore, Gardner prefers the term emotional sensitivity, which may apply to the individuals who are sensitive to emotions in themselves and in others. He also draws attention to the distinction between emotional sensitivity and being a good person, suggesting that a person may be sensitive to the emotions of others; however, s/he can use it to manipulate, deceive or create hatred.

In conclusion, in order to identify a type of intelligence related to a certain domain, it is necessary to determine the core and the essence of that domain. Without having an accurate knowledge about what constitutes a certain domain, it cannot be possible to identify an intelligence related to that domain. For example, the domain of mathematics is specific and accurate; therefore, a person’s possession of mathematical intelligence is not as controversial as it depends on obtainable, reliable and objective data. However, as the case is not so for the moral or spiritual domains, it is not possible to determine them as distinct intelligences.

2.5. MI Theory and Education

The theory of multiple intelligences provides educators with a context for questioning the current applications and the factors influential in students’ learning within their classrooms or schools; therefore; it suggests alternative models of teaching

based on the provision of multimodal learning opportunities for the learners (Armstrong, 2000; Campbell et al., 1999; Lazear, 2000, 2003). Although MI theory was not presented as an educational theory at the beginning, the idea that it offers important implications for effective teaching has become prevalent. In these lines, in order to state that MI can be applied as an effective way of instruction, Moran, Kornhaber and Gardner (2006, p.23) give the following example:

Think of lego building blocks. If we have only one kind of block to play with, we can build only a limited range of structures. If we have a number of different block shapes that can interconnect to create a variety of patterns and structures, we can accomplish more nuanced and complex designs. The eight or nine intelligences work the same way.

As learning and teaching situations and learner and teacher profiles are different from each other all over the world, it is not possible to suggest a single model of MI-based lesson design. Teachers need to consider the wide spectrum of possible activities related to MI within the framework of their students' needs, expectations and their own teaching styles. Therefore, Gardner's MI theory does not propose a rigid formula that has to be followed step by step for pedagogical reasons; instead, it should be viewed as a framework for preparing more productive, enjoyable, and stimulating learning environment.

Gardner (1995) states that "there is no right way to conduct an MI education" (p. 59). However, it is possible to design a variety of educational programs based on MI theory (Gardner, 1999). Applications trying to consider individual differences and to design instruction in line with multiple profiles of learners are welcomed by MI theory; however, uniform school is in direct contrast with the logic of MI theory. The basic idea underlying the uniform schooling is that "every individual should be treated in the same way: study the same subjects in the same way and be assessed in the same way" (Gardner, 1999, p. 150). Treating everybody in the same way may seem to be a fair way of schooling as everybody is treated equally. However, considering the fact that actually each human being is unique with unique profiles of intelligence, unique personalities and unique ways of viewing and understanding the whole world, it makes no sense to try to teach everybody in the same way. "No two people have exactly the same kinds of minds, since we each assemble our intelligences in unique configurations" (Gardner,

1999, p. 150). At that point, uniform type of schooling prefers to ignore all these differences among people and expose everybody to the same type of instruction, which is often linguistic and logical/mathematical and to the same types of assessment, which is often paper-and-pencil tests conducted out of context. If a student has tendency towards this way of instruction (linguistic or logical/mathematical) and assessment, then s/he will do well and be considered as smart. However, if s/he has a different kind of mind which is not in line with linguistic or mathematical way of understanding, then s/he is most likely to do not so well and considered as not so smart while attending to school.

An alternative to traditional uniform schooling can be “individually configured education” in Gardner’s terms. This type of education takes the individual differences into consideration, and develops practices that address different types of intelligences. At that point, it is important to know about learners’ minds, and their proclivities in order to take educational decisions appropriately. For that end, students’ interests, preferences, anxieties, experiences, and goals should be learned without stereotyping or labeling. This information can be collected from the learners themselves, from their previous teachers (and if possible, it is suggested that the same teacher had better continue with the same students as long as possible), from their parents, their friends and through observations.

In terms of determining the individual differences and students’ profiles of minds, educators need to be careful about not labeling students with a certain intelligence type. Within this framework, Gardner (1999) states that there are certain studies related to individuals’ dominant intelligences; however, these studies need to be intelligence fair, that is they need to be applied within a context in which individuals can demonstrate whether they have a proclivity in related area, not through traditional paper-and-pencil tests. Gardner expresses his worries about the possibility that the results of such measurements may be used to label learners such as visual spatial smart, but musical stupid similar to IQ tests labeling individuals as smart or dumb (Gardner & Moran, 2006). In addition, use of self report inventories in order to determine individuals’ dominant intelligences are also problematic due to the deficits in their validation, it has been found out that most of the participants required to estimate their

tendencies have overestimated their levels of ability in various intelligence domains (Visser, Ashton, & Vernon, 2006).

Consideration of individual differences can be identified as the first step of incorporating MI in learning and teaching context. The next step involves the determination of goals. In the end, implementation of MI ideas is not a goal in itself; instead schools and teachers need to have certain educational and instructional goals and they need to specify these goals, then MI practices can be implemented as tools to achieve these goals. Besides determining what to teach, how to teach should also be determined. At that point, the MI theory can act as a stimulating factor in deciding how the curricula are to be taught.

Gardner (1993b, p. 142) summarizes different ways of approaching a topic based on MI theory:

1. Narrational, the story mode.
2. A quantitative, logical rational way of dealing with numbers, principles, causality.
3. A foundational way, asking basic questions such as how something is related to our lives today.
4. Aesthetic, considering what something looks like or sounds like.
5. Hands on, asking questions about how it is like to be doing something.
6. Personal, considering how to integrate a specific topic through role plays or projects.

All of these entry points are in line with the eight types of intelligences suggested by him. Practices based on these points can enable teachers to reach more students with different types of minds as not every child learns in the same way, and to approach a topic in a number of different ways like an expert.

The specific goals of instruction change in accordance with the topics included in the curriculum; however, MI theory stresses the fact that the basic goal of any instruction and education should be “deep understanding.” Gardner (1993b, p. 134) defines understanding as:

“the capacity to take knowledge, skills, concepts, facts learned in one context, usually the school context, and use that knowledge in a new context,

in a place where you haven't been forewarned to make use of that knowledge.”

He argues that many students who seem to master what school requires them to do actually do not understand what is – seemingly – taught as they cannot make use of that knowledge in new situations in real life. The scholastic learners never try to apply what they learn to another context except where s/he is taught to do. They tend to give prescribed answers found in their books, and often they even do not ask any questions. On the other hand, MI theory emphasizes that instead of bringing up scholastic learners, schools had better try to raise disciplined learners who make use of his/her knowledge when appropriate and does not make use of that knowledge when it is not appropriate. In order to ensure deep understanding, Gardner (1993b) suggests being inspired by educational institutions such as apprenticeship and children's museums. In apprenticeship, a younger person works with a master. The master uses his discipline or craft everyday in order to solve problems. The master also requires the younger person to solve certain problems which are appropriate for his/her level of competence, and the standards are raised in accordance with the young person's level of competence. During this process, the master does not have to give a decontextualized test to the apprentice as he continuously observes him/her and assesses everyday – even every minute. In addition to apprenticeship, children's museums also give students opportunities to explore various topics through lively demonstrations and at their own pace and in a comfortable way. Gardner states that he does not suggest closing the schools and taking students to apprenticeship or to museum to educate. Instead, he says that teachers and curriculum developers had better consider such examples of learning and try to set up similar conditions in the schools and classrooms.

In terms of determining the goals for an educational setting, and enabling students to understand deeply, Gardner emphasizes the negative role played by the huge content of curriculum. Trying to cover everything in the book or in the curriculum puts a heavy burden on the teachers and students. As the teachers try to finish all the content of the book, it is often not possible to focus on any topic thoroughly and from many perspectives. This leads to scholastic learners who just try to memorize whatever is told, but who cannot understand anything to be able to apply it in their real life circumstances or in any other new conditions. Therefore, MI theory suggests that when developing

curricula, decisions about what to teach should be taken very cautiously. Curriculum developers may choose to involve rich concepts that can be approached in different ways so that students can have more chance to understand what is covered.

Gardner (1993) draws a picture of his ideal school constructed in line with the principles of MI theory. First of all, he suggests that his ideal school of future is based on two assumptions: the first is that all people are different from each other, and they have different interests and different ways of learning, it is not possible that all people can learn in the same way. The second assumption is that nobody can learn everything to be learned. Therefore, an individual-centered school which provides rich opportunities for assessing individual abilities and proclivities can ensure the matching of individuals to curricular areas and to particular ways of teaching subjects. Within this framework, Gardner proposes some new roles for educators. First, there can be “assessment specialists” in the schools to try to understand the abilities and interests of the students in a school through “intelligence-fair” instruments not through linguistic and logical-mathematical perspectives. Such an assessment can reveal the students’ strengths in various intelligences other than linguistic and logical-mathematical intelligences. Second, an ideal school can have “student-curriculum broker” who “helps match students’ profiles, goals, and interests to particular curricula and to particular styles of learning.” Third, there needs to be a “school-community broker” who can “match students to learning opportunities in the wider community.” Some students who may not seem to be bright in standardized tests may have certain interests or proclivities in areas which are not available within the school. Therefore, these school-community brokers can find situations in the community that provide chances for these students to show themselves successfully (Gardner, 1993, pp. 10-11)

2.5.1. MI theory, curriculum development and lesson planning

MI theory does not suggest a prescriptive formula for developing curriculum and planning lessons, instead it provides a framework that can be taken into consideration during curriculum development and lesson planning as each and every context of teaching and learning is composed of unique conditions. In order to develop curriculum and lesson plans based on multiple intelligences, the first thing teachers need to consider is the question of how to “*translate the material to be taught* from one

intelligence to another (Armstrong, 2000, p. 44). Armstrong suggests some procedures that may be useful for developing curriculum and lesson plans using MI theory as a framework. These procedures involve determining the objectives clearly and concisely, asking questions related to multiple intelligences (such as how can I use pictures to explain a material? How can I incorporate songs in the lesson?), considering the methods and materials that can be useful for the lesson, brainstorming and listing activities and materials that can be used for the lesson, selecting among these activities and materials, setting up a plan within a time frame, and implementing the plan (Armstrong, 2000; Gardner, 2006).

Researchers propose certain models for organizing instruction based on MI. These models can be seen as starting points in order to prepare lesson plans and develop curriculum considering the different intelligence profiles of students. However, the most important point is that teachers need to evaluate the conditions in which they teach, they should determine the objectives clearly and consider the different needs and properties of the students. For example, it may not be possible to involve activities related to all of the eight types of intelligences in a 40-minute lesson; therefore, the teacher may organize activities to be realized through three or four lessons. Researchers propose lesson planning matrix for organizing instruction according to multiple intelligences; however it is always up to teacher to adapt these matrix in accordance with the conditions of teaching environment (Armstrong, 2000; Campbell, et al., 1999; Gardner, 1993; Lazear, 2000, 2003). The modals that are commonly suggested to be implemented in the classrooms to provide an instruction based on MI Theory can be listed as following:

- a. Lesson plans involving eight intelligences are often suggested for designing lesson plans based on MI Theory (e.g. Campbell, et al., 1999; Lazear, 2003). Lazear suggests that eight intelligences can be addressed in one lesson (naming it as 8-in-1 lesson planning strategy). According to this view of lesson planning based on MI Theory, the teacher is required to determine the content and objectives of the lesson precisely. S/he should also write the anticipated learner outcomes. Then s/he is required to go over the list of numerous MI-based activities and choose activities that can be applicable for the instruction of the targeted content. The teacher is expected to choose at

least one activity for each type of intelligence. After, deciding about the activities, these activities are sequenced and then assessment follows. During this process, it is important to notify that some content may not be suitable for activities related to some of the intelligences; on that occasion, the teacher does not have to force himself/herself to find activities addressing all the intelligences, instead s/he may skip the application of some intelligences for some specific content. Another important issue is that the targeted concept is taught in several different ways; however, the teacher should be careful about not getting far away from the original concepts and objectives of the lesson. In order to conduct a multimodal lesson, some teachers may involve numerous activities that attract the attention of the students and engage them in the lesson. However, in this case the students may get lost among many entertaining, engaging but fragmented activities. Therefore, the teacher has to be careful about not losing the basic focus of the lesson and the activities should be organized around that focus in a cohesive way.

- b. Interdisciplinary unit modal proposed by Campbell et al. (1999) involves the organization of target topics in an interdisciplinary way so that all types of intelligences can be addressed. In traditional model of teaching, all the subject matters are taught in an isolated way with a little connection to the other disciplines and to the students' lives. MI-based lesson/unit planning can enable the teachers to plan units in an interdisciplinary way; therefore math, language arts, science, arts, music, physical education and so on can be intertwined to produce interdisciplinary units. Such an interdisciplinary planning involves the instruction of the same unit through different activities in different disciplines. For example, when teaching a topic related to environment, a math teacher can give some numerical information about the environment (the amount of oxygen, the number of trees in a region etc.), the arts teacher can ask the students to draw a picture related to environment, language teacher can enable the students to read and discuss a text related to environment, music teacher can teach a song on environment. This way of planning can provide the students with numerous enriched learning opportunities. It should be emphasized that teachers of different disciplines

need to cooperate in order to align topics that are mutually supportive and to make plans to teach these topics concurrently. While making lesson plans, teachers should identify what the students should be able to do by the end of the unit and how the activities should be sequenced in a developmental order.

- c. Learning (activity) centers modal is another way of designing lessons in accordance with multiple intelligences as proposed by Armstrong (2000) and by Campbell et al. (1999). According to this modal, teacher sets up eight learning centers for eight intelligences. Names of people who typify a particular intelligence are given to each center. For example, William Shakespeare center is for linguistic intelligence; Albert Einstein center for logical-mathematical intelligence; Pablo Picasso center for visual-spatial intelligence; Martha Graham center for kinesthetic intelligence; Ray Charles center for musical intelligence; Mother Teresa center for interpersonal intelligence; Emily Dickinson center for intrapersonal intelligence; Jane Goodall center for naturalist intelligence. Teachers can give names of individuals who are well known for possessing a particular intelligence in their own cultures or societies. At the beginning of the school year, the individuals whose names are given to the centers are introduced to the students, their lives and how they improved their intelligences, their success stories are explained so that these individuals become mentors for the students. In addition, at the beginning of the school year, objectives are determined and the curriculum is organized thematically through the learning centers. The thematic organization enables the students to learn the target topic through a meaningful content and in a coherent way instead of learning information as bits and pieces. The thematic units may involve topics such as “space, environmental problems, and ancient civilizations.” After the unit plans are done, application process starts. The teacher starts the lesson with a “main lesson” which gives an overview of the topic of the day. Then students are divided into small groups and they work on the topic at centers in eight different ways. During walking around the centers, the students read, write, listen, build up, move, discuss, think, criticize, and solve problems. They are expected to move around all the centers and complete certain tasks each day

(Armstrong, 2000; Campbell et al, 1999). Armstrong (2000) suggests four types of activity centers: The first one is permanent open-ended activity centers which are designed to be present along the year and designed in a way that students can be engaged in a lot of open-ended experiences such as library area, science lab, art area, hands-on center, music lab. The second one is permanent topic-specific centers which are designed to be present along the year and involve permanent materials; however the topic changes weekly or monthly and students are provided with opportunities to explore the specific topics at each centre. The third one is temporary topic-specific centers which change frequently and designed in accordance with a particular topic or theme. The last one is temporary open-ended activity centers which can be set up for a specific topic and taken down after the students are involved in various explorations through activities on that topic.

It is important to be aware of how to make use of activity centers during lessons. As the names of the activity centers suggest, open-ended activity centers provide the students with a great variety of activities in a large spectrum of topics. Therefore, the students can be directed to open-ended activity centers at breaks or after school work so that students can be engaged in activities that they prefer and they are given chance to make new explorations through the materials which address their dominant intelligences as it is often the case that students tend to go to the centers based on their intelligences in which they feel competent. On the other hand, topic-specific activity centers are designed to make students become involved in the study of a particular topic; therefore, teachers need to make all the students go around all of the centers so that each student has experience in each centre. At that point, the students are not given choice to go to whichever center they want, instead each of them is required to rotate center by center, and they may be given choice about the first center they prefer to start with. This kind of rotation ensures that students have experiences in different types of intelligences and they are engaged in active learning. Different activity centers addressing different intelligences can activate students' learning potentials; in addition, being exposed to different types of materials can enable students and teachers to notice areas in which the students are actually competent.

Learning centers modal provides the students with various opportunities to learn skills and apply them in numerous modes. The students do not have to be indulged in monotonous activities. Instead they are given chance to learn through their strengths. After the students complete their work at centers, then they are expected to share their individual or group work with their classmates. The students present their work, which can be a picture, a song, a small construction, a piece of narration, and their peers give feedback. This process enables the students to experience some academic success each day and therefore they can discover their strengths and also find chances to improve their relatively weak points (Armstrong, 2000; Gardner, 1993b).

The rest of the school day is allocated for independent projects students work on in accordance with their own interests. Through project work, students acquire self-directed learning skills as they learn to ask research questions, find out resources, make a work plan, arrive at certain results and present the results (Gardner, 1993b). During this process, teachers guide the students; however, main responsibility belongs to the students.

Involving all the eight intelligences in learning centers in the classrooms can be a challenging task for the teachers. They need to make a well-working plan and apply it smoothly. At the beginning, this can be time-consuming; however, as the teachers have some practice and develop a repertoire of instructional strategies, they can find it easier to plan and realize the plans for learning centers instructional modal.

- d. Project-based curricula also enable the incorporation of MI-based activities in curriculum. These curricula require students to produce projects in realistic contexts. Gardner suggests that curricula which enable students to prepare projects also prepare them for real life. During project work, students are involved in active exploration of their environments and have real life experiences. These involvement in real life conditions can enable students to gain knowledge and skills and maintain them for using all through their lives as what is attained through living and experiences are maintained the most (Gardner, 1993).

As students may not know how to proceed in preparing projects, they need to be provided guidance. Campbell, B. (1994) outlines the basic steps for teaching students how to carry out projects. These steps are:

1. State your goal,
2. Put your goal into the form of a question,
3. List the resources that can be used to find an answer to the research question,
4. Describe the steps for achieving your goal,
5. List the main concepts that you want to research,
6. List the methods that you will use to present your project,
7. Prepare a timeline to organize your project,
8. Decide how you will evaluate your project.

Involving project work in curricula enables the students to become the active initiators of their own learning. Project works can stimulate all the eight types of intelligences in students through providing the students with experiences relevant to their real life circumstances. As projects give them the chance for learning by doing, they are expected to carry the knowledge and the skills they acquire through projects to their adult life (Gardner, 1993b). Therefore, teachers had better consider involving project work in the curricula and provide necessary guidance and support for the students.

- e. Apprenticeship models also suggest ways to trigger students' different types of intelligences enabling them to be involved in real life experiences. Apprenticeships offer students valuable opportunities to work with older students or adults who have achieved competence in a discipline or craft. Through apprenticeships, students understand that mastery of a valued skill is gained gradually, with effort and discipline over time. Apprenticeships can involve an art form or craft, an academic area, a physical discipline. As students master competence in a discipline, they should be given chance for self-expression and to reflect their creativity on that discipline. Apprenticeships provide the students with context-rich learning experiences and they also give chance to the students to see the real world and relate their school experiences to real world experiences; it also helps students not to

become stunned when faced with real-life circumstances after school (Gardner, 1993b).

When the procedures for developing curricula and lesson plans are considered, it is easily seen that MI Theory does not suggest a single and strict route that must be followed for effective instruction; instead, it provides a broad range of alternatives to stimulate people planning curricula and lesson plans. MI Theory acts as a stimulating factor that enables the teachers to re-think about their best methods of teaching and it also provides teachers with a large amount of repertoire of teaching methods, materials and techniques in order to access more and more diverse range of learners. Within this scope, many teachers and school administrators have tried to apply MI-based curriculum in the lessons. Although their basic aim is to conduct an effective instruction through MI based methods, some applications which actually reveal that MI Theory is misunderstood in some contexts have also been witnessed. An illustration of these misconceptions can provide a clearer picture of the processes involved in MI-based curriculum development and lesson planning. Gardner (1995) summarizes these problematic applications as following:

- a. The attempt to teach all concepts or subjects using all the intelligences: Gardner indicates that although some topics can be suitable for being handled through all of the intelligences, it is not the case for each topic. It is a waste of time to try to approach each topic from the perspectives of all types of intelligences.
- b. Thinking that it is sufficient to involve the motions of exercising a certain intelligence: For instance, encouraging children just to move their arms without any purpose has nothing to do with applying MI theory as it does not address cultivation of mind.
- c. The use of materials associated with an intelligence as background: For example, use of music as a background does not mean addressing the musical intelligences of children unless the children are not asked to focus on the performance itself.
- d. The use of intelligences primarily as mnemonic devices: For example, use of songs may make it easier to memorize some vocabulary items; however such a use is seen as trivial. The important point is to enable learners to think

musically and attend to some structural aspects of music to understand concepts.

- e. Combining intelligences with other desiderata: For example, although interpersonal intelligence is related to understanding other people, it is distorted to as a license for cooperative learning, or intrapersonal intelligence is distorted as a rationale for self-esteem programs.
- f. The direct evaluation of intelligences without regard to context or content: Intelligences should be viewed as active when individuals are carrying out productive activities that are valued in a culture. Grading individuals as “linguistic” or “bodily-kinesthetic” does not have much use, and it may lead to labeling. Therefore, it is more reasonable to indicate that a child seems to have a relative strength in one intelligence and a relative weakness in another.

In conclusion, the procedures that MI Theory suggests teachers to consider when planning their lessons stimulate teachers to go beyond the traditional “teacher-as-lecturer” mode of instruction. In traditional classrooms, the lessons are lectured through linguistic and logical ways no matter how diverse intelligence profiles students have. Teacher lectures in front of the classroom, writes important points on the blackboard, asks questions about the target topic (and the most frequent question is ‘do you understand?’ answered with a ‘yes’), waits students until they finish noting the things on the board in their notebooks and until they finish completing the exercises often given in the same form as fill-in-the-gaps or cloze-tests. All the techniques and materials used in the lessons revolve around linguistic and mathematical intelligences; therefore, lessons often become monotonous. On the other hand, teachers in MI classes organize lessons around different types of intelligences, and it is often the case that there are at least three or four different intelligences addressed in one lesson. The implementation of MI based practices seems to be difficult and it may seem that teachers and students have to make use of a lot of materials and supplying all these materials may seem to be problematic. However, it can be concluded that MI Theory suggests such a large variety of activities and materials that it is possible to implement the theory in a wide range of instructional contexts. Even a traditional lecturing can be designed in a way that it stimulates students’ different types of intelligences through drawing some pictures, using gestures, changing the voice tone, asking questions,

remaining silent. In short, incorporating MI based activities in curriculum is not an impossible thing; what is needed is to see the vast amount of techniques and materials suggested by MI theory as a starting point and employ the ones that are suitable for particular teaching objectives, teaching environment and students' profiles in teaching processes through making use of some creativity.

2.5.2. MI and classroom management

Incorporation of activities addressing eight different intelligences of students can have effects on the processes in classroom; therefore, the issue of classroom management can also be re-considered within the framework of the implications of MI theory. As classrooms consist of students with diverse personalities, diverse expectations and diverse interests, it is necessary to make use of certain rules and routines in order to ensure that classrooms are environments in which teaching and learning processes are realized without problems (or with fewer problems). For that purpose, MI theory can be seen as a framework in order to produce some methods for establishing an order. One of the situations in which most of the teachers have difficulty in is to attract students' attention to the lesson. It is inevitable to see students daydreaming, talking with each other, making jokes, being interested in other things and so on; and it is often the case that teacher raises up his/her voice to make the students become silent, and after a couple of seconds the noise in the classroom starts to increase again. On such occasions, MI theory can implicate that students are addressed in the ways they understand the best. Instead of just raising up voice, teacher can make use of different strategies appealing to different intelligence types of the students. In addition, students' interest in lesson decreases when there is a monotonous way of instruction not appealing to their areas of interest. Therefore, trying to 'color' the lesson through activities addressing different intelligence profiles of students may help teachers to attract students' attention. Teacher can make use of some symbols to give students some commands and to give clues about how they are expected to behave. These symbols can be prepared in at least eight different ways. Raising a hand, singing a short song, showing a picture, even just keeping silent can be used as symbols to direct students to behave in particular ways. When addressed through different ways and through ways pertaining to their dominant intelligences, and when they are given chance to link

symbols to particular behaviors, students can be expected to behave more ‘properly’ (Campbell et al., 1999).

Setting classroom rules is another strategy to set order in the classroom. Use of MI-based strategies can help teachers and students to set the rules and obey the rules accordingly. The first step can be to ask the students to help determine classroom rules so that they can be expected to support those rules and obey those rules better. Besides asking students to determine rules, they can be asked to explain those rules through their own MI strategies so that they can devise various symbols in accordance with their dominant intelligence types in order to explain those rules to the whole class. A form of classroom rules can be prepared in different ways such as writing rules and reading them aloud, giving numbers to rules, explaining rules through pictures, gestures, songs, and even animals. In addition to determining rules and symbols for the whole classroom, teachers may sometimes have to deal with individual misbehaviors (Barrington, 2004; Campbell et al., 1999). On such occasions, teacher had better bear in mind the fact that one discipline approach cannot be effective for all students with diverse characteristics. Therefore, teacher can utilize some strategies addressing different types of intelligences going beyond just threatening the student or warning him/her linguistically. Within this framework, it should be also stated that teachers trying to make use of MI strategies to manage their classes do not have to use all of the eight intelligences in each and every command they are requiring their students to obey; instead they can go beyond traditional way of linguistic schemes and try to reach most of the students using some different types of intelligences which can enable students to internalize the classroom rules (Christion, 2004). MI theory does not claim to replace all the procedures such as a comprehensive professional team approach to solve students’ behavioral difficulties and problems; instead, it offers some guidelines that may be used to approach students through various ways based on their individual differences. As a last point in terms of classroom management, it is claimed that when teachers apply MI based strategies and techniques during lessons, individual needs of the students can be met to a great extent, therefore, students are expected to be less bored, less frustrated, less stressed and less confused – all of which would lead to inappropriate behaviors otherwise. As a result, teachers are expected to make use of discipline strategies at a minimum level. When students are given active roles in learning process, when they are

required to produce something and solve some problems, it is not so possible for them to find time to disrupt the order in the classroom (Berman, 2002).

2.5.3. MI and assessment

Gardner (1983, 1993, 2006) provides new methods for improving the teaching, learning, and assessment processes. Multiple Intelligences Theory can be used as a basis for the process of assessing students' improvement (Armstrong, 2002; Barrington, 2004; Christion, 2004; Christion & Kennedy, 2004; Lazear, 2004; McTighe & O'Connor, 2005; Schunk, 2004). When a school and teachers decide to make use of multiple intelligences activities during the process of teaching and learning, they need to decide to make the assessment in line with the logic of multiple intelligences theory. MI theory suggests an assessment procedure which involves less and less formal standardized or norm-referenced tests focusing on verbal and logical domains; instead MI theory promotes criterion-referenced and authentic measures which aim at comparing a student to his/her own past performances (Armstrong, 2007; Christion & Kennedy, 2004; Lazear, 1998, 2004) Authentic measures of assessment are claimed to reveal students' understanding of target matter more deeply and thoroughly than traditional multiple-choice and fill-in-the-blanks tests (Gardner, 1993; Herman, Aschbacher, & Winters, 1992). The basic premise of authentic measures is to enable students to show what they have learned in a context which is similar to real life circumstances as the basic purpose of MI based instruction is to prepare the students for real life circumstances (Gardner, 1993, 2006). On the contrary, standardized, traditional way of assessment is conducted in artificial settings and through mere paper and pencils, which are away from real life conditions.

Armstrong (2000, pp. 90-91) provides a list of the differences between standardized testing and authentic assessment (Figure 2.2.), which makes it clear that authentic assessment is more effective in demonstrating the students' improvement, knowledge and abilities.

 Standardized Testing

- Reduces children's rich and complex lives to a collection of scores, percentiles, or grades
- Creates stresses that negatively affect a child's performance
- Creates a mythical standard or norm that requires that a certain percentage of children fail
- Pressures teachers to narrow their curriculum to only what is tested on an exam
- Emphasizes one-shot exams that assess knowledge residing in a single mind at a single moment in time
- Tends to place the focus of interpretation on errors, mistakes, low scores, and other things that children *can't* do
- Focuses too much importance on single sets of data (i.e., test scores) in making educational decisions
- Treats all students in a uniform way
- Discriminates against some students because of cultural background and learning style
- Judges the child without providing suggestions for improvement
- Regards testing and instruction as separate activities
- Answers are final; students rarely receive an opportunity to revise, reflect, or redo a testing experience.
- Provides results that can be fully understood only by a trained professional.
- Produces scoring materials that students never see again.
- Focuses on "the right answer."
- Places students in artificial learning environments that disturb the natural ecology of learning.
- Usually focuses on lower-order learning skills.

Authentic Assessment

- Gives the teacher a "felt sense" of the child's unique experience as a learner
 - Provides interesting, active, lively, and exciting experiences
 - Establishes an environment where every child has the opportunity to succeed
 - Allows teachers to develop meaningful curricula and assess within the context of that program
 - Assesses on an *ongoing* basis in a way that provides a more accurate picture of a student's achievement
 - Puts the emphasis on a student's *strengths*; tells what they *can* do and what they're *trying* to do
 - Provides *multiple* sources of evaluation that give a more accurate view of a student's progress
 - Treats each student as a unique human being
 - Provides a *culture-fair* assessment of a student's performance; gives everyone an equal chance to succeed
 - Provides information that is *useful* to the learning process
 - Regards assessment and teaching as two sides of the same coin
 - Engages the child in a continual process of self-reflection, mediated learning, and revision.
 - Describes a child's performance in commonsense terms that can be easily understood by parents, children, and other noneducators.
 - Results in products that have value to students and others.
 - Deals with *processes* as much as final products.
 - Examines students in *unobtrusive* ways within the context of their natural learning environments.
 - Includes higher-order thinking skills and important subjective domains (e.g.,
-

<ul style="list-style-type: none"> •Encourages extrinsic learning (e.g., learning to pass a test or to get a good score). •Has time limits that constrain many pupils' thinking processes. •Is generally limited to reading, listening, and marking on a piece of paper. •Promotes unhelpful comparisons between children. 	<ul style="list-style-type: none"> insight and integrity). •Fosters learning for its own sake. •Provides students with the time they need to work through a problem, project, or process. •Involves creating, interviewing, demonstrating, solving problems, reflecting, sketching, discussing, and engaging in many other active learning tasks. Encourages cooperative learning. •Compares students to their own past performances.
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Figure 2.1. Standardized testing and authentic assessment (Armstrong, 2000, pp. 90-91)

MI theory suggests multiple ways to evaluate students contrary to the standardized tests which often demand the students to show their knowledge in only linguistic and logical ways. Standardized testing usually asks the students to sit down and complete answering the test items at a time previously determined and without collaborating with their peers or teachers. On the other hand, MI based assessment techniques require students to show their knowledge and talents in a variety of ways (Armstrong, 2000; Branton, 2004; Popham, 2006) Armstrong (2000, p. 93) suggests that “any subject can be *assessed* in at least eight different ways.” MI based assessment emphasizes the importance of assessment in context and suggests that if a student is a visual learner than s/he is expected to learn through visual materials better and also s/he is expected to show his/her knowledge of a certain subject through visual ways. Therefore, forcing such a student to show his/her knowledge only through linguistic ways may not enable that student to express himself/herself thoroughly; as a result, his/her teacher cannot comprehend his/her competence completely. Thus, students need to be provided with assessment techniques that enable them to learn and express what they learn through a variety of methods.

It is possible to list down numerous instruments and measures to make an authentic assessment; however, Gardner (1993) emphasizes that the starting point of authentic assessment is observation. Observing students in situations similar to real life contexts gives an important amount of knowledge about the students' competencies

across a wide range of subjects taught in school. The ways students prefer in solving problems, producing new products and interacting with their peers yield important clues about their proclivities. In addition to observing students systematically, documenting students' products and their problem-solving processes is another important step. Multiple intelligences theory provides teachers with ideas to engage students in the learning and assessment procedures and to enhance their numerous talents and to identify their weaknesses and strengths for a more qualified learning (Lourdel, Gondran, Laforest, Debray, & Brodhag, 2007; Stiggins, 2004). Assessment of students through authentic methods based on multiple intelligences also involves students' self-assessment of their own learning (Meyer & Glock, 2004), and a variety of performances over time (Branton, 2004; Brookhart, 2004; Parker, Murnane, City, & Moody, 2005; Popham, 2006; Stiggins, 2004). Anecdotal records, work samples, audio cassettes, videotapes, photography, student journals, student-kept charts, sociograms, informal tests, informal use of standardized tests, student interviews, criterion-referenced assessments, checklists, classroom maps, calendar records are among the methods that can be utilized in order to document and save students' experiences and their improvement. In addition to these assessment techniques, another assessment way is portfolio assessment based on multiple intelligences. Portfolio assessment is often suggested as it provides teachers, parents and the students themselves with a means to understand learning progress. MI theory suggests that portfolios involve materials from all eight intelligences depending on the instructional purposes of the portfolios. Portfolio assessment acknowledges students' products and success, gives chance to students to reflect on their own work, lets parents, teachers and students learn about students' learning progress, enables students to work cooperatively, and sets criteria to evaluate students' work (Armstrong, 2000, 2009; Campbell et al. 1999). Therefore, instead of evaluating portfolios through a single number or a letter as it is done in standardized testing, portfolios should be assessed through a detailed way in order to describe students' level of comprehension, strengths, and weaknesses and to offer further suggestions.

All the assessment methods based on multiple intelligences theory provide an assessment framework within which students have opportunity to make their work acknowledged and encouraged for further improvement. Students are provided with

opportunities to demonstrate their knowledge of a subject matter and their talents. In addition, the assessment is done not only by teachers but also by students, peers, parents and sometimes by teachers of other subjects. Assessment is not seen as a process apart from instructional processes; instead assessment and instruction go on hand-in-hand. Through applying a process assessment, teachers notice weaknesses and strengths of students and provide suitable materials for instruction. Besides, such an assessment incorporated in the process of instruction enables teachers to see the gaps in students' knowledge so that they can give chance to students to fill in the gaps through further activities.

2.5.4. MI and content-based instruction

Organizing curriculum and lesson plans around a theme is supported by MI theory as the incorporation of content or a theme in lessons can act as activators of different intelligences (Armstrong, 2000; Berman, 2002; Gardner, 2006, 2009). Rather than employing activities as bits and pieces throughout the lesson, organizing all the activities around a theme can make the flow of lesson smoother and can also activate students' different intelligences. Within this scope, as the current study tries to explore the effects of MI-based activities in a content-based context, the content-based instruction (CBI) will be elaborated on in this section.

Designing language lessons around a content can subserve two basic purposes of language instruction; attainment of language skills and acquisition of content (Brinton, Snow & Wesche, 1989; Crandall, 1987; Met, 1991; Mohan, 1986). The basic premise of CBI in language learning is that learning takes place effectively when language learners are exposed to meaningful input and when they are required to complete purposeful tasks. The curricula in CBI settings are organized around content rather than being determined by mere forms and structures (Stryker & Leaver, 1997). Therefore, CBI applications can be considered to be in contrast with traditional instructional applications which put the primary focus on language forms (Richards & Rodgers, 2001). Use of authentic texts and materials and learner-centered instruction and use of language for meaningful communication and for content mastery are the other basic principles of content-based instruction. When planning curriculum and lesson plans, learners' profiles (e.g. age, socio-demographic background, language proficiency,

cognitive and affective needs and interests) are taken into consideration (Short, 1991). As students are required to be engaged in tasks that are compatible with their needs and interests, and as they try to achieve a task in a meaningful and purposeful setting, students' motivation and interest towards lessons increase, which results in higher achievement. Content-based instruction is based on a learner-centered learning environment in which the teacher's role is mentoring. In such a learning environment, students are expected to "construct" knowledge through connecting their prior knowledge and experiences to what is presented as new subject matter. This is realized through integrating content-based, meaningful and purposeful activities into learning environment (Genesee, 1994, Leaver & Stryker, 1989).

In CBI, students are provided with real life situations in which they find opportunity to use language for meaningful and purposeful communication. Instead of providing students with teacher-centered instruction during which teacher conveys ready-made knowledge to the students in passive roles, CBI enables students to have a number of different activities with diverse materials and through numerous learning activities (Brinton et al., 1989; Crandall, 1987). All the basic principles are seen to be in compliance with the basic premises of MI-based instruction which also encourages the consideration of learner diversity, use of diverse materials in addition to stimulating students to have experiences similar to real life experiences.

Met (1999) suggests that it is possible to determine a number of content-based models depending upon the emphasis given to content and language. Immersion programs and sheltered courses are two types of content-based instruction that are content-driven. In such courses, the basic aim is to teach content about a subject matter. On the other side, theme-based courses are more language-driven, and the basic aim of such courses is to teach language through content. Language instruction is conducted through incorporating content into the classrooms. The most prevalent modal of CBI is theme-based model (Stoller & Grabe, 1997). The implementation of theme-based modal is also parallel to the processes of MI-based instruction. In theme-based modal, themes or topics are selected in accordance with students' profiles and these themes or topics provide the content for language instruction (Snow, 1991). The use of themes in language classes ensures a meaningful, purposeful and contextualized learning environment, which is also supported by MI theory.

The theoretical rationale for language and content integration comes from Krashen's Comprehensible Input Hypothesis, which suggests that methods that provide language learners with comprehensible input can be more effective than mere memorization of language forms and vocabulary items (Krashen, 1985). At that point, the basic role of instructors is to recognize their students well, they need to have an idea about their students' interest, needs, proclivities in order to design lesson plans accordingly and make the content of the lesson comprehensible for the students. The inclusion of content into language instruction provides learners with opportunities to use language as a means for meaningful interaction like real-life situations. Integration of content in language classes provides students with opportunities to use language in contexts similar to real-life contexts. As individuals have an intrinsic motivation to understand what is going on in real-life circumstances and as they try to make sense of the world, and to communicate with other people, the content around which meaningful and purposeful activities are organized can enable language learners to have real-life experiences in language classrooms, which can increase their motivation in lessons and influence their success positively and lead to deep understanding (Brinton et al., 1989; Met, 1991). Met (1991, p. 282) suggests that "the separation of language from learning, of language from thought, of language from meaning, of language from communication can only undermine the effectiveness of language instruction." As a result, CBI supports content and language integration as this integration provides a contextualized learning environment in which students are engaged in purposeful and meaningful activities in accordance with their needs and interests (Crandall et al., 1990). CBI requires second language instruction to be similar to the first language acquisition. In the case of first language acquisition, language items are not presented as isolated bits and pieces, acquisition takes place in a natural setting which is rich enough in terms of contextual cues and provides learners to be involved in various experiences for using language. CBI tries to provide learners with conditions that are similar to real-life conditions so that language learners can learn a second language through contextual cues, meaningful, and purposeful activities that trigger their previous learning experiences and prior knowledge to construct new knowledge. In addition, involvement of comprehensible content in a contextually rich environment can enable learners to learn language

incidentally and also to get a considerable amount of incidental knowledge about content (Lyster & Ranta, 1997).

The use of content from diverse subject matter areas enables the teacher to enrich the language classroom. Therefore, each student can find something interesting and motivating for him/her in a classroom with diverse materials. An increase in their motivation and interest in the lesson can be expected to lead to an increase in students' success in language learning (Chapple & Curtis, 2000; Crandall, 1987; Met, 1991). Making language classrooms more interesting and relevant to student's prior knowledge and real-life experiences, CBI contributes to improve students' motivation, skill development and self-confidence (Grabe & Stoller, 1997; Met, 1991). As students' self-esteem and motivation increase, the anxiety they feel towards language learning decreases; as a result, students can elaborate on their own learning and be engaged in cognitive processes enthusiastically to construct meaning through making connections with previous knowledge (Flowerdew, 1993; Kasper, 1997).

There are quite a number of studies in literature that put forward the positive effects of content-based instruction on second language proficiency, content mastery and attitudes towards L2 learning (e.g. Alptekin, Erçetin, & Bayyurt, 2007; Chapple et al., 2000; Gibbons, 2003; Gilzow & Branaman, 2000; Hauptman, Wesche & Ready, 1988; Kasper, 1997; Leaver et al., 1989; Lyster, 1994; Rodgers, 2006; Stoller, 2004; Turnbull, Lapkin, & Hart, 2001; Wilburn, 1992; Yalçın, 2007).

When the basic principles of content-based instruction are considered, it is evident that they are compatible with the principles of Multiple Intelligences Theory, which supports a learner-centered instruction, individualized learning, and provision of multiple resources for building meaning. In these regards, Armstrong (2000) emphasizes that although the teaching of academic knowledge as isolated pieces of knowledge may be useful for school life, it is often very difficult for students to connect such knowledge to their real life and use it in real life circumstances. Therefore, a thematic instruction which enables students to reach knowledge in situations that are close to real life situations can be a way to build a connection between what is learned in school and what is experienced in real-life settings. Themes are usually related to subjects and skills found in nature and they enable students to make use of their

multiple intelligences in various ways. Therefore, use of themes (as it is done in theme-based modal of CBI) is supported by MI theory as designing a language curriculum around a theme through the application of MI based activities can stimulate learners' multiple intelligences and ensure that each learner will have chances to find a way to make meaning through his/her own proclivities. Instead of applying MI-based activities as bits and pieces and through themes that are irrelevant to each other; use of a certain theme around which multiple intelligences activities are designed can provide a consistency for learners. In addition, such an instruction can also enable students to make connections between various activities and build a holistic meaning.

Although there are numerous studies about CBI and MI theory separately, the researcher has not come across any research studies trying to integrate content-based instruction and MI-based instruction. Therefore, the present study can be claimed to be the only study that searches for the effects of multiple intelligences-based activities in a content-based context on foreign language learning.

CHAPTER THREE

3. METHODOLOGY

In this chapter, the research process will be presented elaborating on the research purpose and research questions, research context, data collection instruments and procedures, and data analysis.

3.1. Research Purpose and Research Questions

The basic impetus for the present study is to explore the effects of MI based activities implemented in a content-based context in learning English in Turkish context. To present more specifically, this study aims at exploring the effects of multiple intelligences based activities implemented in a content-based context on grammar and vocabulary learning, reading comprehension, and writing development of sixth and ninth grade EFL students in Turkey. It also tries to figure out whether there are any differences on the students' attitudes towards learning English after the implementation of the MI activities through content. The study also aims at exploring teachers' views about the implementation of MI based activities for teaching English in Turkish context. The research has been conducted at both 6th and 9th grades in order to have a larger perspective about the effects of MI activities in a content-based framework. The research questions are stated below:

1. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of learning the target grammar form at the 9th grade level in an Anatolian High School in Turkey?
2. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of learning the target vocabulary at the 9th grade level in an Anatolian High School in Turkey?

3. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of English reading comprehension development at the 9th grade level in an Anatolian High School in Turkey?
4. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of English writing development at the 9th grade level in an Anatolian High School in Turkey?
5. What are the ninth-grade students' attitudes towards English lessons instructed through traditional method versus multiple intelligences activities in a content-based framework at the 9th grade level in an Anatolian High School in Turkey?
 - 5.a. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of their attitudes towards English lessons at the 9th grade level in an Anatolian High School in Turkey?
6. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of learning the target grammar form at the 6th grade level in a primary school in Turkey?
7. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of learning the target vocabulary at the 6th grade level in a primary school in Turkey?
8. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of English reading comprehension development at the 6th grade level in a primary school in Turkey?
9. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a

content-based framework in terms of English writing development at the 6th grade level in a primary school in Turkey?

10. What are the ninth-grade students' attitudes towards English lessons instructed through traditional method versus multiple intelligences activities in a content-based framework at the 6th grade level in a primary school in Turkey?

- 10.a. Are there any differences between two groups of participants instructed through traditional method versus multiple intelligences activities in a content-based framework in terms of their attitudes towards English lessons at the 6th grade level in a primary school in Turkey?

11. What are the teachers' accounts about the process of implementing MI-based activities in a content-based context versus implementing traditional method to teach English in Turkey?

3.2. Research Design

The objectives of the current study require the handling of the issue(s) from various perspectives, leading the researcher to involve not only qualitative but also quantitative options in the process of conducting the research study. Quantitative research procedures were followed in order to obtain data that can be analyzed to arrive at objective conclusions. In addition, in order to explore and understand a central phenomenon, the researcher made use of qualitative research processes, as well. As a result, the research design of the study was determined to be a mixed method design. A mixed method research involves the collection of quantitative and qualitative data in a single study. Mixed method design has positive sides for research studies as they provide the researcher to view an issue from different perspectives making use of different data collection procedures (Creswell, Fetters, & Ivankova, 2004). The basic reason for implementing a mixed method design is the fact that mixed method design provides the researcher with both quantitative data which yield numerical results and enable the researcher to see a general picture related to the issue researched and qualitative data that can enable the researcher to see the details in that picture and to

interpret the rationale behind the statistical results (Bryman, 2006; Collins, Onwuegbuzie, & Sutton, 2006). Although mixed method designs enable the researchers to elaborate on the results more thoroughly and deeply through both quantitative and qualitative data, researchers need to be aware of the difficulty inherent in conducting mixed method design and they need to determine the sequence of data collection and analysis procedures carefully depending on the objectives of the research study (Caracelli & Greene, 1993).

After deciding about conducting a mixed method design, the researcher had to make a decision about which type of mixed method design would be the most appropriate one for the objectives of the current study. There are three types of mixed method design: first, triangulation design involves simultaneous collection and analysis of both quantitative and qualitative data; second, explanatory design involves first the collection of quantitative data and then collecting qualitative data to be able to explain or elaborate on the quantitative data; third, exploratory design involves first collecting qualitative data to explore a phenomenon and then collecting quantitative data to provide an explanation for the relationships found in the qualitative data (Creswell, 2002). For the present study, explanatory mixed method research design was applied. The researcher first collected the quantitative data implementing pretests and posttests and applying the questionnaire. Then the researcher conducted open-ended interviews with students and the teachers involved in the study to be able to make some interpretations about the quantitative results. In explanatory mixed method design, quantitative data collection and analyses are given priority, and quantitative data collection is conducted first. The qualitative data are used to refine the results from quantitative data through exploring some typical cases (Creswell, 2002; Denzin, 2010).

Appropriate ways for the collection of quantitative and qualitative data were also determined in accordance with the objectives of the research study. As stated in the research objectives section, the objective of the present research study is to explore the effects of multiple intelligences activities implemented in a content-based context on learning grammar and vocabulary, reading comprehension, and writing development of EFL students at ninth and sixth grades. It also tries to figure out whether there are any differences on the participants' attitudes towards English lessons after the implementation of the MI activities through content. As the research objectives required

making a comparison between two cases in one of which treatment was applied and in the other no treatment was applied, it was decided that an experimental study with at least two independent groups could be conducted. In order to set up a cause-and-effect relation minimizing the confounding effects, the researcher involved two independent groups in the study, one of which was experimental (treatment) group and the other was control group (Black, 1999; Creswell, 2002).

The determination of variables in experimental studies is the first step. Considering the definition of independent variable to be “an attribute or characteristic that influences or effects an outcome” (Creswell, 2002, p. 131), the researcher determined the independent variable to be the type of instruction in the current study. The independent variable (or the treatment variable) had two levels, one of which was the group that received instruction through MI based activities in a content based framework (level 1) and the other was the group that received instruction through traditional method (level 2). The group that received the treatment the researcher would like to test was the experimental group; in other words, the group in which MI based activities in a content based framework was implemented was the experimental group. The other group that did not receive the treatment was the control group, that is the group in which traditional method was implemented was the control group.

In addition to independent variable, dependent variables should be also determined before the implementation. Dependent variable is defined as “an attribute or characteristic that is dependent on or influenced by the independent variable. They may be called outcome, effect, criterion, or consequence variables.” (Creswell, 2002, p. 136). In the present study, there are multiple dependent variables; they can be listed as achievement scores in grammar, vocabulary, reading comprehension and writing tests. In addition, participants’ mean scores in attitude scale towards English lessons are also dependent variables.

In research studies in the field of education, one of the most prevalently applied research designs is quasi-experimental designs as it is often not possible to manipulate the existing structure of the classes and to redistribute students into new groups (Creswell, 2002). Even if such a case was possible, and students were distributed to new groups or classes within the framework of a research study, that would again threaten

the validity and reliability of the research study considering the fact that a new classroom with an atmosphere which is unfamiliar for the participants and which is consisting of other participants most of whom are also unfamiliar to each other would also have an impact on outcome scores other than the impact of the treatment implemented. The research questions of the current study and the research context entailed the conduction of a quasi-experimental study with a pre-test and post-test control group design. As the researcher implemented the treatment in pre-existing, intact classes as determined by the administrators of the schools, the study is called a quasi-experimental design. In terms of forming the classes by the administrators of the schools at the beginning of the academic year, the researcher got in contact with the school administrators to ensure the random distribution of the students who were just enrolled in the school to the classrooms, this process will be explained in detail in the section about participants. A pre-test and post-test control group design involves the measurement of two groups in terms of dependent variables before and after the treatment. The comparison is done between the *gain scores* (the difference in scores between pre-test and post-test). This structure potentially offers control over all possible extraneous variables (Black, 1999; Campbell & Stanley, 1963).

The basic rationale behind the application of pretest-posttest research design is the fact that if the participants are not assigned to the treatment conditions at random, it can be expected that the participants who receive different treatments could be different systematically even before the treatment. The participants in one group may be more motivated or more interested in learning a language, which can have effect on the outcomes. Such initial differences are called selection differences and can threaten internal validity of the design as the observed difference between outcomes of both groups could be because not only of the effects of treatment but also of the effects of selection differences (Reichardt, 2009). However, it is possible to fight against this case through a number of ways and to conduct a valid and reliable quasi experimental design. One of the most common ways is to apply pre-treatment in both groups. Pre-treatment observation in both groups can be used for assessing the effects of selection differences. If the pre-treatment measures suggest that the effects of selection differences are not significant enough to make a difference in the post-test scores, this design can be used in a valid and reliable way (Black, 1999; Creswell, 2002; Reichardt, 2009). As the

credibility of the pretest-posttest designs is “enhanced by adding a pretest measure” (Reichardt, 2009, p. 55), the researcher can eliminate potentially biasing effects and selection differences. It is advised that to use a pretest measure that is operationally identical to the posttest measure and to analyze the data using change scores can ensure detecting and adjusting for the effects of selection differences (Reichardt, 2009).

A detailed review of literature also suggests that true-experimental designs are often not possible to implement in educational settings and even seemingly true-experimental designs can distort the outcomes due to experimental conditions which require participants to be instructed in “made-up” classroom contexts which are different from their own classrooms and in contexts in which they are exposed to instruction separately from most of their friends and teachers. As a result, considering the literature and the taking necessary precautions, the researcher conducted a pre-test post-test with control group research design for the current study.

3.2.1. Participants

Experimental designs require the involvement of at least two groups and at least one of them must receive a treatment (Sproul, 2002). In an experimental study, an experimental group is the group that receives the treatment that researcher wants to test and the control group is the group that does not receive any treatments (Black, 1999; Creswell, 2002; Sproul, 2002). In order to compare two groups of participants, random assignment of participants to groups is seen as a way to equate the groups. Random assignment is “the assignment of subjects to different experimental and control groups, using random procedures, for the purpose of equating groups prior to conducting the experiment.” (Sproul, 2002, p. 133). In randomization, all members of a population have the same probability of being selected (Black, 1999). In order to relate any differences between two groups to the use of treatment after the implementation process, random assignment to experimental and control groups is necessary (Black, 1999; Creswell, 2002; Karasar, 2012; Sproul, 2002). Random assignment is required in order to prevent any bias about personal characteristics and to control participants’ extraneous characteristics (such as motivation, attention span). The process of assigning individuals to groups and equally distributing any variability of individuals between the groups in the experiment is called “equating groups” (Creswell, 2002).

Within this framework, the researcher of the present study tried to make a random assignment prior to the experiment. For that end, the researcher preferred to conduct the study on the 6th and 9th graders as the classes for these grades would not have been determined before the experiment started; therefore the classes could have been determined randomly before the research study started. Before the starting of the 2014-2015 academic year, the researcher met with the administrators of two schools involved in the study and gave information about the research study she planned to do in that academic year. She explained the importance of random assignment and kindly asked the school administrators whether they could form the 6th and 9th grade classes in primary and high school respectively in a random way. The school administrators agreed upon this request stating that they had been already forming the first grade level at each school randomly. They mentioned about the fact that sometimes some schools tried a method similar to “ability grouping” in order to increase success. “Ability grouping” involves dividing students into different classes according to their ability which is thought to be measured by various exams (Boaler, William & Brown, 2000). Such schools formed classes taking students’ scores they got at the previous level as a criterion. A top-level class is comprised of students with high scores while the lower-level class is comprised of students with lower scores. Such an implementation resulted in decrease in success rate of both classes and increase of discipline problems in previous years as students in the top classes felt impressed by the high expectations of their teachers, and did not study as hard as they would have been expected. In addition, some of the students in these classes had an increased self-esteem, and behaved as if they were already very hard-working students and knew everything, so they started to exhibit inconvenient behaviors towards their teachers and peers. The students in lower level classes thought that their teachers and administrators did not value them and they started to behave in undisciplined ways and showed no sign of interest in their lessons. Therefore, the school administrators in which the research study was to be conducted stated that the best method was to have “mixed” classes formed randomly. They also stated that they would be much more cautious for equating the classes not only in terms of their level of achievement but also in terms of gender and socio-demographic properties.

At the beginning of the 2014-2015 academic year, 108 students were enrolled in the 9th grade in the Anatolian High School. They entered the high school based on their score they had got from a national examination called TEOG (Examination for Entering High Schools from Primary Schools). The population of the research study was ninth grade students in the Anatolian High School in the first semester of the 2014-2015 Academic Year. A stratified sampling method was used and school administrators made a list of the students enrolled and they stratified them according to their gender, then through random sampling, they sampled from each stratum so that individuals were being represented in the sample in proportion to which they existed in the population (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, Demirel, 2012; Karasar, 2012; Tanrıöğen, 2011). After this process, three classes of 9th graders were formed. In terms of the properties of all groups, it should be emphasized that random assignment enabled to equalize all groups and to distribute variabilities of individuals equally (Creswell, 2002) - such as socio-demographic background, their scores in the TEOG, their personal characteristics, their educational background- across the classes/groups. As all the individuals are unique beings, it is possible that there will be some differences between groups, however random assignment is thought to be the key measure that can be taken in order provide that both groups are close to each other as much as possible (Black, 1999; Sproul, 2002). This fact is stated by Creswell (2002, p. 318) as following: “In practice, personal factors that participants bring to an experiment can never be totally controlled – some bias or error will always affect the outcome of a study. However, by systematically distributing this potential error among groups, the researcher theoretically distributes the bias randomly.”

After the 9th grade classes were formed, the researcher determined one of them as experimental group and one of them as control group randomly. The third class was not involved in the study. In terms of the sampling process, it should be stated that the researcher aimed at generalizing the findings of the research study to a population as large as possible. However, in educational research, it is often not possible to manipulate the conditions in schools and classrooms in order to reach a large population. For example, in terms of present study, it would be ideal to involve ninth grade students from all of the high schools in Turkey and divide them as experimental group and control group and implement a treatment and then get an outcome that can be

more generalizable. That would be impractical, as most of the participants from such a sample would be exposed to treatment out of their schools, and therefore, the experimental conditions would not be similar to real life situations, which would again distort the outcome. Another alternative might have been to have the teachers to implement the treatment in their lessons and see the results; however as schools, teachers, physical properties and opportunities of classes and students' characteristics would be different, and this would lead to distorted research findings. Therefore, as Black (1999), Büyüköztürk et al. (2012), Creswell (2002), Karasar (2012) touched upon, in educational situations, the best way can be to identify a population for the study and select individuals from this population. For that end, a sampling frame (or a target population) which is "a group of individuals with some common defining characteristics that the researcher can identify with a list of names" (Creswell, 2002, p.163) was determined and participants were sampled from that target population. As a sample is a subgroup of target population, the researcher could make generalizations about that target population. Altunışık, Coşkun, Bayraktaroğlu, Yıldırım (2012) suggest that there are two types of populations: one of them is an "ideal population" which could be accepted as the population if there were no limitations regarding the research study. The other type is "realistic population" which is formed by considering certain limitations within the framework of the study. In terms of the present study, the ideal population would be all the ninth grade students in public high schools in Turkey; however due to the limitations about the nature of experimental studies in education, the researcher had to limit the population only to one public high school which participated in the study. However, the findings can also have important implications for the idealistic population, as it is the case in most of the experimental studies all over the world.

In terms of the sampling process for the 6th grade participants, the same procedures with the 9th grade participants were followed. The only difference is the fact that although ninth graders were enrolled in the Anatolian High School based on their scores they had got in TEOG, sixth grade students did not have to take such an examination. In addition, sixty students were enrolled in the Primary School at the beginning of the 2014-2015 academic year, and they were assigned to their classes randomly as it was done in the 9th graders. First, they were stratified based on their

gender, and then they were assigned randomly to two separate classes. The researcher determined experimental and control groups randomly. Therefore, all the members of the target population participated in the study representing the target population as a whole. It should be also stated that the idealistic population would be all the sixth grade students in public schools in Turkey; however, the nature of conducting an experimental study limited the target population to the sixth grade students in the primary school that participated in the study.

In conclusion, there were 35 students in both experimental (18 female and 17 male) and control groups (19 female and 16 male) at the 9th grade level. There were 30 students in both experimental (16 female and 14 male) and control groups (17 female and 13 male) at the 6th grade level

Besides determining the target population and participants of the research study, the researcher had to consider validity and reliability issues of the research. For that end, the procedures followed for ensuring the validity and reliability of the research study will be elaborated in the following sections:

3.2.2. Internal Validity

Designing an experimental research study requires the consideration of various factors that may intervene in the research process and may confound the outcome. Within this framework, the issue of internal and external validity of experimental studies must be addressed. Internal validity refers to arriving at correct conclusions about the possible causality between the independent and dependent variables. Internal validity is an important property that enables the researcher to conclude that the independent variable caused changes in the dependent variable (Black, 1999; Campbell & Stanley, 1963; Creswell, 2002; Sproul, 2002). Threats to internal validity are problems that threaten drawing correct inferences and these problems may arise from experimental procedures or experiences of participants. In order to minimize these threats, the researcher needs to consider them before and during the research process and try to take necessary precautions. These threats and suggestions for controlling them are widely discussed in literature (e.g. Black, 1999; Campbell & Stanley, 1963; Cook & Campbell, 1979; Creswell, 2002; Sproul, 2002; Tuckman, 1999). These threats

will be handled referring to the applications for terminating them within the context of the current study as presented in the following subsections:

- a. History: Events that occur between pre-test and post-test may have influence on the outcome. In social sciences and particularly in educational research it is impossible to control the whole environment and monitor all the events. However, involvement of a control group that will experience the same events with the experimental group (except for the experimental treatment) may have control on this threat. Therefore, the current study involved control groups for both 6th grades and 9th grades.
- b. Maturation: As individuals continue to change over time, these changes (such as becoming older, more careful, more experienced) may affect their scores from pre-test to post-test. In order to control this factor, experimental and control groups can be comprised of individuals who mature in a similar way. For instance, the distribution of age between two groups needs to be similar. Considering this issue, the age levels of all the participants in the present study were similar across groups. The ninth grade students were at the age of 14-15 both in experimental group and in control group; and the sixth grade students were at the age of 11-12 both in experimental group and in control group
- c. Regression: When groups are formed based on extreme scores, it is expected that the participants' scores will regress towards the mean no matter whether they are exposed to a treatment or not. In order to solve this problem, a random assignment of the individuals between the groups is necessary so that students with extreme scores will not come together in one group; instead they will be distributed equally across groups and both groups will be similar in terms of the individuals' initial level of knowledge or other characteristics. Within the framework of the present study, the pretests applied at the beginning of the research suggested that there were no significant differences between experimental and control groups at the 6th and the 9th grade levels. The investigation of pretest scores yielded that extreme scores did not come together in one group.

- d. Selection: “Differential” selection of participants may distort the outcome. For example, assigning individuals who have a prior experience similar to the treatment to the experimental group may influence the outcome of the research study. Instead, random assignment assures the probability of equating experimental and control groups on variables prior to the implementation of the experimental study. A pretest gives information about whether both groups were similar; therefore, the application of pretests suggested that all the groups were similar at the beginning of the research study in terms of their knowledge of the target unit. In addition, the socio-demographic information provided by the students suggested that most of them had similar experiences and similar socio-demographic background.
- e. Mortality: When participants leave the experiment during the process of experimental implementation due to various reasons such as withdrawing consent from participating the experiment, moving to another place, leaving school, it becomes difficult to make comparisons between groups and reach an accurate conclusion. On such an occasion, the researcher may try to make a comparison between those who drop out and those who remain in terms of the outcome of the experiment. During the research study, there were no drop outs at both grade levels.

The threats mentioned so far can be solved through the involvement of a control group in the study and through random assignment of experimental and control groups, and through implementing pretests. Within the framework of the present study, the researcher tried to address those threats to the internal validity of the research study through involving a control group besides an experimental group into the study and through randomly determining the experimental and the control groups, and by implementing pretests. There are some additional threats to the internal validity as following:

- f. Diffusion of treatments: When experimental and control groups are close to each other and communicate with each other, the control group may get some knowledge about the treatment from the experimental group and this may confound the outcome. The researcher should be careful about keeping the

two groups separate. At least, a transfer of knowledge to a great extent can be prevented. Such a case was not relevant for the current study as both groups were instructed the same unit and the same content at both grade levels, the only difference was the way they were instructed.

- g. **Compensatory equalization:** When only the experimental group is exposed to a treatment, an inequality occurs between the groups. The control group may think that the other group is benefitting from the experimental treatment while they are deprived of such benefits, and such a thought of inequality may threaten the validity. Therefore, the “benefits” of the experiment can be distributed equally and while an experimental group is exposed to a treatment, the comparison group may be provided with some other instruments such as handouts in line with the implementation applied in the control group. In that way, both groups can be enabled to receive some benefits from the process of experimental application. The researcher ensured that the control groups instructed through traditional method were also given some handouts and do some activities that they did not do beforehand. These handouts and activities were also in line with the basic principles of the traditional approach; however, the students had the feeling that they were also benefitting from the process of a research conducted in their classrooms. The experimental groups were already experiencing something different.
- h. **Compensatory rivalry:** If the participants in the control group feel that they are the “disadvantageous” side, a compensatory rivalry may occur and the internal validity can be threatened. For instance, when groups are given assignments that are quite different from each other (for example while experimental group is required to make a field trip and take notes, the control group is asked to read a text in a book and summarize it), control group feel that they are the “disadvantageous” side, in addition the experimental group may feel that they are more clever and valuable. In order to avoid such a threat, the researchers can reduce the participants’ awareness and expectations of the presumed benefits of the experimental treatment.
- i. **Resentful demoralization:** During the process of experiment, the control group may become “resentful” and “demoralized” as they think that they get

a less desirable treatment than the other group. If such a case is sensed during the process of the experiment, the control group can be informed that they will be also exposed to a similar treatment after the completion of the experiment. After the experiment ends, the control group can also be supplied with a treatment. Another solution can be to provide the control group with implementations which are attractive (similar to the experimental treatment) but which are not directed towards the same outcome as the experimental treatment.

The threats named as diffusion of treatments, compensatory equalization, compensatory rivalry, resentful demoralization stem from “unequal” treatment conditions between the groups. In order to avoid these threats in the present research study, the researcher and the teacher instructing both groups tried to make the groups perceive that there were not actually many differences in terms of the applications to which both groups were exposed. For that end, the students were taught the same unit and both groups continued to make use of the same course books. They were instructed by the same teacher in the same classroom with the same technological devices. In addition, both groups took the pretests and posttests and the researcher participated in the lessons for both groups. The experimental group did not get any “concrete” benefits that the control group would think of being deprived of. Therefore, the students in control group were not aware of a different implementation in the experimental group. They thought they were studying the same unit and getting the same knowledge; a researcher was observing them and applying some tests for that unit. In addition to the similarity in terms of the physical conditions, the assignments were seemingly similar for each group, as well. For example, on one occasion, two groups were asked to write a text, but while the control group was asked to pay attention to form, the experimental group was asked to pay attention to content in addition to trying to use correct forms. Another example for making the processes similar for both groups was that the participants in the experimental group were enabled to work on the computer; similarly the control group was also given chance to work with computer although the aim of using computer was different for each group. As a last but not least point, it should be emphasized that the efforts to make the participants believe that the conditions were similar for both groups did not lead to any changes on the treatment or the independent

variable, that is, the experimental group was instructed through MI based activities in a content based context while the control group received traditional instruction for mastering the same unit.

There are two more threats to internal validity of the study, these are;

- j. **Testing:** When participants take a pre-test, they may become familiar with the test items and they may remember responses for the following testing (post-test). In order to avoid this case, the researcher can involve a control group and both groups can be given the pre-tests and post-tests so that testing effect can be similar for both groups. In the present study, the researcher applied a pre-test at the beginning of the study and a post-test at the end of the study. There were two weeks interval for the 9th grades and three weeks interval for the sixth grade participants between pre-test and post-test. Considering the number of the items on the tests (there were 40 items in grammar test, 20 items in vocabulary test, 25 items in reading comprehension test, and 20 prompts for writing test for the ninth grades. There were 20 items in grammar test, 30 items in vocabulary test, 25 items in reading comprehension test and 10 prompts for writing test for the sixth grades) and the time interval between pre-test and post-test, it may not be possible for most of the participants to remember most of the test items. In addition, the involvement of a control group also enabled that testing effects would be the same for both experimental and control groups.
- k. **Instrumentation:** If the instrument changes between the pre-test and post-test, internal validity can be threatened. Using different scales may be an example for this case. To avoid this problem, standardized procedures and scales should be used throughout the experiment. In the present study, the pre-tests and post-tests were the same and the rubrics used for evaluation were the same for all the measurements so that a threat to internal validity due to instrumentation could be avoided.

3.2.3. External Validity

External validity enables a researcher to assure that the sample is representative of the target population and the results can be generalized to “populations, settings, treatment variables and measurement variables.” (Sproul, 2002, p. 138). The issue of external validity is often difficult to solve as it is often not possible to be accurate about the representativeness of a sample and to generalize the findings to populations. However, consideration of threats to external validity can enable a researcher to control for those factors and increase the chance of making inferences from the sample data to other people, settings, and past and future situations (Creswell, 2002; Sproull, 2002). Similar to internal validity, external validity is a highly disputed issue, as well. The factors threatening the external validity and the precautions for eliminating these threats within the context of the present study can be presented as following (Black, 1999; Campbell & Stanley, 1963; Cook & Campbell, 1979; Creswell, 2002; Sproull, 2002):

- a. Interaction of selection and treatment: If a researcher selects participants on bias from a small unit of the population, it becomes difficult to generalize the findings to the whole population. To avoid this problem, any bias in the selection of the sample should be avoided and the researcher should try to choose a sample as representative as possible. In the present study, as the researcher assured random selection of the participants into the study, any bias could be avoided.
- b. Interaction of setting and treatment: This threat results from not being able to generalize from the setting where the experiment was conducted to other settings. Creswell (2002, p. 328) gives private and public school settings as an example. He states that as private high schools may be different from public high schools, the results from an experiment conducted in a public school may not apply outside the public school. A suggested solution for such a problem is to analyze the effect of a treatment for each type of setting. In the context of the present study, there was a similar situation mentioned by Creswell. The treatment was conducted at public schools, therefore it was difficult to generalize the findings to private schools. In addition, the province in which the research study was conducted was a small one on the eastern

part of Turkey. Therefore, conditions in this city are different from most of the other cities in Turkey; as a result, it is difficult to generalize the results of the study to other schools in other cities. For that reason, the researcher limits the population of the study to the schools in which the experiment was administered and the target population is determined as the public high schools and public secondary schools that participated in the study. These are among the limitations of the present study; however, it is certain that the findings reached in the present study have important implications for other settings; therefore, similar research studies can be replicated in other contexts in order to compare and analyze the results.

- c. Interaction of history and treatment: If a researcher tries to generalize results of an experiment to past and future situations, a threat to external validity due to the interaction of the time period and treatment may occur. A treatment may yield different results at different time points so differentiation of results cannot be attributed to independent variable but to the effect of history or the time period in which the experiment is conducted. Therefore, instead of trying to generalize the findings to other times, the researcher can replicate the study at different times to see whether results change or not. The present study was conducted at the beginning of the fall semester, and it is possible that the results might have been different, if it had been conducted at the end of the semester or in the spring semester. Therefore, it can be replicated in other times, as well.

3.2.4. Construct Validity

“Threats to construct validity are problems that threaten drawing correct inferences because of the measures used in the experiment for the treatment (independent variable) and the outcome (dependent variable) (Creswell, 2002, p. 327). In order to avoid this threat, the researcher needs to ascertain that the measures used in the study are accepted measures in literature and they are related to the expectations formed by theory (Sproul, 2002, p. 81). Thus, a measure should be related to variables put forward by the theory, not to the ones which are not expected by the theory. In addition, in order to relate measures to a theory, the researcher can make use of multiple

forms of treatments, and s/he can also collect multiple measurements. Researchers should be careful about not creating any expectations that may bias the data. All these steps can increase construct validity of an experiment ensuring that the measures used in an experiment are in line with the theory to which the research study is related and the researcher does not manipulate or direct the data and the findings. For the present study, the researcher developed or used the measures which were compatible with the MI Theory and content based instruction, in addition as the instruments were developed taking the related research studies in the literature into account, it could be expected that the construct validity of the study was established.

3.3. Research Context

In this section, the basic properties of the context in which the research study was implemented will be presented. Within this framework, the participants' socio-demographic profile, the conditions of the schools, the curricula and the materials used in English lessons for 6th and 9th grades, and samples from typical language classes for both experimental and control groups during the research study will be presented.

3.3.1. Socio-demographic profiles of participants

The participants' socio-demographic profiles are of importance for having a comprehensive understanding of the conditions under which research study is conducted. In addition, the results attained at the end of the study can be better interpreted considering the socio-demographic background of the participants. Within this framework, this section will present the basic socio-demographic properties of the participants.

3.3.1.1. The socio-demographic profile of the 6th grade participants

The sixth grade students had been exposed to English for three years and they had English classes for three hours a week during the fall semester of the 2014-2015 academic year during which the research study was conducted. Their level of English was determined to be A1 level in English Language Curriculum for Primary Education (2013) which took the principles and descriptors of the *Common European Framework*

of Reference for Languages: Learning, Teaching, Assessment (CEFR, 2001) as the basis. A1 level learners are named as beginners and these learners are described to be able to understand and use familiar everyday expressions and very basic phrases, to introduce themselves and others by asking and answering questions about basic characteristics such as name, age and so on, and to interact in a simple way if the other person talks slowly and clearly (CEFR, 2001). The socio-demographic questions asked them at the beginning of the research study revealed that 25 of them were at the age of 11 while 5 of them were 12 years old. It was found out that families of the 22 students (that is nearly 73%) lived in the villages as they were farmers. Therefore, most of the students travelled from their villages to the school every day. Their level of income was not so high and they did not have opportunities to be able to learn English outside the school. These students' parents were primary or secondary school graduates and they did not know English. Families of 8 students (that is nearly 26%) lived in city centre. Fathers of four students were graduates of a high school and worked as officials, and the other four students had parents both of whom were graduates of university and working as teachers or at other state organizations. None of the students stated that their parents knew English. 14 students (that is nearly 46%) had elder brothers or sisters who learned English at school. None of the students stated to have a chance of learning English outside the school as there were no courses or language schools in the province. The students spent most of their time in the school and went back their homes after school; they did not have an active social life.

3.3.1.2. The socio-demographic profile of the 9th grade participants

The 9th grade students were at the age of 14 or 15; 28 of them (80%) were 14 years old while 7 (20%) were 15 years old. They had been exposed to English since 4th grade, that is they had been exposed to English for nearly five years. However, their level of English during the research was stated to be A1/A2 according to CEFR levels (CoE, 2011). It is stated that although “students are expected to be at A2 level at the end of 8th grade according to the 2nd-8th Grade English Curriculum, in practice there is often a need to revise and recycle the content presented in previous classes as students enter the 9th grade English classrooms with different levels of capacities, English proficiencies, and individual learning differences.” (English Language Curriculum for

Secondary Education, 2014, p. XIII). It is also noted that even though functions similar to those covered until 8th grade are addressed at 9th grade level, 9th grade A1 level can be designed in a more advanced way in terms of vocabulary and structures compared to 8th grade A1 level. In terms of socio-demographic properties, it was observed that families of 27 students (77%) lived in the villages as they were farmers. Therefore, these students stayed in the dormitories. Their level of income was not so high and they did not have opportunities to be able to learn English outside the school. In addition, the students did not have much chance for free time activities. When their parents' education level is considered, it is seen that most of the participants' parents were primary or secondary school graduates (30 students, that is 85%) and they did not know English. Only a small portion of the students (5 students, that is 20%) had parents who were graduates of university and were working at private or state organizations. In terms of the question which asked them whether there were any family members that knew English, 18 students (51 %) stated that they had sisters or brothers who learned English at schools and they rarely had chances for asking help from them as their level was not so high, either. In conclusion, the only occasion for the students to deal with English was the English classes they attended at school.

3.3.2. School / classroom contexts

The schools involved in the research were state schools. They were chosen randomly among the schools in the province. When the school and classroom contexts of the high school that participated in the research study are considered, it can be said that the physical and technological conditions of the school were at an appropriate level for a state school (though more improved conditions could have been possible). For example, all of the classes had a computer, a projector and a smart board. In terms of the number of students, it could be observed that the classes were consisting of nearly 30-35 students, which is actually a high number for language instruction. English was instructed through traditional methods in all of the classes before the research study. During the research study, the same teacher continued to instruct at both experimental and control classes; however, the researcher also attended to the classes in order to make observations, take notes about the instructional procedures, students' reactions,

attitudes and also in order to provide help for the teacher when necessary. The classroom environment was the same in both experimental and the control groups.

The primary school that participated in the research study was a new school and the physical conditions of the school and classrooms were considered to be at an appropriate level. The classes had computers, projectors and smart boards and they usually consisted of 25-30 students. Before, the research study, the teacher basically implemented traditional method for English language instruction. She also made use of some different activities such as listening to music or role plays, but their basic focus was on the structured instruction of the target grammar forms. During the research study, one of the 6th grade classes was assigned as control group and the other was assigned as experimental group. All the conditions were the same for both groups. The same teacher continued to teach for both groups and the researcher attended the classes for observing and taking notes about the instructional processes and students' attitudes.

3.3.3. The curricula and the basic materials implemented in the schools

As both schools were state schools, they had to conform to English Language Teaching Programs and the curricula presented by Ministry of National Education. The teachers prepared their annual plans and lesson plans in accordance with the curricula and tried to apply them in their classrooms. This section will present information about the basic principles of the English Language Teaching Programs and also describe the course books/workbooks used in the English classes for both grade levels.

3.3.3.1. English language curriculum for primary education

Turkish national educational system has undergone the latest changes since 2012 - 2013 academic year. These changes entailed a transition from the 8+4 educational model to the new 4+4+4 system, leading to a need for the redesign of current teaching programs. With respect to English language education, in particular, this new system makes it obligatory that English instruction be implemented from the 2nd grade onward, rather than the 4th grade. As the newly-designed 2nd and 3rd grade syllabi would serve as the foundation for English language learning, the syllabi for the 4th through the 8th grades were also revised in order to maintain continuity (MEB, 2013, p. II).

The basic purposes of English language instruction are presented in the English Language Curriculum for Primary Education (2013). In the curriculum it is stated that the teaching program for English has been prepared in accordance with the general goals of Turkish National Education as defined in the Basic Law of the National Education No. 1739, along with the main principles of Turkish National Education. It is also emphasized that in designing the new English language teaching program, the principles and descriptors of the *Common European Framework of Reference for Languages: Learning, Teaching, Assessment (CEFR)* were closely followed. As the CEFR particularly stresses the need for students to put their learning into real-life practice in order to support fluency, proficiency and language retention (CoE, 2001); the new curricular model is also stated to emphasize language use in an authentic communicative environment and to foster an enjoyable and motivating learning environment where young learners/users of English feel comfortable and supported throughout the learning process. Authentic materials, drama and role play, and hands-on activities are suggested to be implemented to stress the communicative nature of English.

In the English Language Curriculum for Primary Education (2013), it is clearly put forward that competence in English is a key factor in communicating effectively at an international level. However, it is also accepted that a significant percentage of students leave school without the ability to interact successfully in an English-language medium. It is deemed that there might be various reasons for such a failure and the fact that English is taught as an academic requirement to be met is put forward as an important reason for lack of success in English language teaching/learning. Therefore, it is suggested that new curriculum tries to emphasize the communicative function of language and it is stated that foreign language should not be seen as an object of study, instead it should be viewed as a means of interacting with others. Instead of focusing on grammatical structures and linguistic functions, authentic use of language in interactive and real-life contexts needs to be emphasized. Instructional design, instructional materials and assessment procedures are also clarified in the English Language Curriculum for Primary Education (2013).

Instructional design involves that at grades 2 through 4, the main emphasis is on listening and speaking. Reading, writing, and grammatical structures are not a focus at

this stage, instead language will be taught through songs, games, and hands-on activities. In the 5th and 6th grades, short texts and controlled writing activities are used to teach language. In the 7th and 8th grades, students will be exposed to reading and writing as an integral aspect of language learning, and the structural features of English are expected to be handled implicitly during the communicative use of language instead of being treated as separate parts.

Instructional materials basically involve course books. For each grade level, a series of 10 sample units is provided, structured around interrelated themes to present new information to learners in a relevant and interesting manner, and to encourage them to make use of their existing knowledge. In order to create a link between language learning and daily life, the themes for each unit have been chosen to reflect ideas and issues that are familiar to young students; therefore, themes such as family, friends, animals, holidays, leisure activities and so on are highlighted” (p. IV).

In terms of assessment procedures, the curriculum states that the suggestions of *CEFR* are followed; therefore, self-assessment in which learners are encouraged to monitor their own progress and achievement in the development of communicative competence is suggested to be implemented (CoE, 2001). It is stated that each unit will include a list of achievements to be met by the students; this will be converted to self assessment checklists which involve questions such as “What did you learn?”, “How much do you think you learned?” and “What do you think you can do in real life, based on what you learned in class?”. It is also added that formal evaluation will be carried out through the application of written and oral exams, quizzes, homework assignments and projects in order to provide an objective record of students’ success.

3.3.3.2. Description of the course book / workbook for the 6th grades

The 6th grade students which participated in the present research study during the first semester of 2014-2015 academic year used an English course book named *English Course Book for 6th Grade* (2014). The book is stated to be at A1.1 level, it is stated that the book has been accepted to be used as a course book for five years starting from the 2014-2015 academic year and it is noted to be in accordance with the English Language Teaching Curriculum published in 2013. The book consists of ten units on

various topics such as family, breakfast, weather, and vacation. Each unit is divided into two parts and in each part a target grammar point and related vocabulary items are instructed. A brief description of how the target unit is depicted in the course book is as following:

The unit covered during the research study is titled as “A Day in My City”. In the first part of the unit, present continuous tense is focused. The students are asked to look at the pictures and describe them basically using present continuous tense. During the research study, the second part of the unit was instructed. The target grammar point of the second part is comparatives and vocabulary items involve basic adjectives to make comparisons. The target part of the unit starts with pictures of a country and a city and students are asked about their opinions about whether they prefer to live in a city or country. Then, a listening part follows. Students are asked to listen to a text and they are required to circle the correct answer on a multiple choice test depending on what they listen. The items consist of comparative forms of adjectives. Then, students are given some pictures and some tips to make comparative sentences about the pictures given such as a plane and a train or a street and a park. As a last section, the students are given the photos of two cities and they are asked to compare them, then they are required to ask comparative questions and answer them.

The workbook also involves similar exercises with the course book. The exercises are basically on the target form and the target vocabulary items. Exercises are in the form of fill-in-gaps, cloze tests or multiple choice type. The basic goal of the exercises is to lead students to make sentences or use verbs in accordance with the target grammar rules.

When the course book and workbook are considered within the framework of the objectives stated in the English language curriculum for primary grades, it is clear that the designers of the course book and workbook have tried to make them interesting for the students by using a lot of pictures and photos. Although the pictures in the books can be interesting for the students, the activities involved in the books make the lessons monotonous after some time. The basic reason for such a claim is the fact that all the exercises in the books are focused on the use of target grammar form. The students are continuously required to make sentences using the same target form. In addition, as all

of the exercises are in similar formats, the students lose their interest in the lesson. However, instead of requiring students to make sentences or complete sentences as isolated bits and pieces, they could have been stimulated to be involved in a task in order to produce something or arrive at a purpose, then all the processes in the classes would have been more meaningful and purposeful for the students. Such an atmosphere could have been expected to lead to an increase in students' interest and motivation towards the lessons (Berman, 2002; Campbell et al., 1999; Flowerdew, 1993).

As students are continuously required to do the similar sentences in each exercise, after some time, they may seem to comprehend the target grammar form, as they no longer make mistakes in sentence formation. However, as their efforts to make sentences are not spent within a context, it becomes easier for them to forget whatever they learn (Met, 1991). Therefore, in addition to using various and colorful pictures, the exercises and the tasks in the course books could have been varied and made colorful so that students could have had the chance of being able to learn target forms and target vocabulary items within a meaningful and purposeful context. In addition, the exercises in the books address basically the linguistic intelligences of the students. Various exercises addressing students' different profiles of intelligences could have been involved in the lessons so that students could have found chances to be involved in activities stimulating their intelligences (Armstrong, 2000; Lazear, 2000).

3.3.3.3. English language curriculum for secondary education

The last changes to the English language teaching curriculum was done during 2012-2013 academic year as a result of the transition from 8+4 system to 4+4+4 system. The teaching program for English has been prepared in line with the general goals of Turkish National Education as defined in the Basic Law of the National Education No. 1739, along with the Main Principles of Turkish National Education. It is also stated that while organizing the curriculum, basic descriptors of The Common European Framework of Reference for Languages (CEFR) have been taken into consideration. The main goal of the new 9th-12th Grades English Curriculum is stated to be "to engage learners of English in stimulating, motivating, and enjoyable learning environments so that they become effective, fluent, and accurate communicators in English." (MEB, 2014, p. II). It is put forward that as language learners at the age of 14-17 are expected

to be conscious about the language learning processes, certain complex language structures can be introduced within the curriculum. Suggesting that one of the main reasons for not being able to teach English effectively is the fact that grammatical competence is emphasized and other language functions have been ignored; the new curriculum aims at developing learners' communicative competence addressing all four language skills. Another issue emphasized in the curriculum for the secondary school English lessons is the encouragement of collaboration among students, as collaborative activities are considered to enable learners to negotiate meaning and practice interpersonal skills, which are important for the development of communicative competence (p. IV). Fostering learner autonomy is presented as another technique that is considered to be helpful for effective teaching. It is suggested that learners should be given chance to participate in decision making processes about language lessons and to bring various materials related to lesson. Students need to be given autonomy gradually through support from their teachers, peers, learning materials and collaboration so that they can start to take responsibility of their own learning processes and become active in learning process.

Throughout the 9th-12th grades English curriculum students are said to be encouraged to be involved in task-based, collaborative, and project-based language activities. In addition, authentic assessment tools are suggested to be involved in the new 9th-12th grades English programs. In order to carry out an effective language instruction, use of technology is also encouraged in the classrooms, stressing the fact that adolescents have usually a tendency towards technological devices, therefore, incorporation of technology into language lessons can be expected to increase students' interest and motivation for the lesson and can also provide an effective and interactive way of language learning. It is also suggested that use of technology such as smart boards, tablet PCs, smart phones can enable language learners to have an access to authentic language and intercultural environments through which they can practice language skills in real-life contexts. In these lines, the curriculum advocates a blended learning environment in which "face-to-face learning takes place in combination with approximately 45% of online materials and activities" (Gruba & Hinkelman, 2012, cited in MEB, 2014, p.VI).

Instructional design of the curricular model emphasizes the integration of four language skills during language instruction. It is stated that the 9th Grade Program is intended to revise most of the content learnt up to the 8th Grade English Program. In addition, limited new language functions and use are introduced to make a smooth transition to the 10th Grade program (p. VIII). It is also emphasized that a thematic organization of units in the textbooks are provided and the curriculum is divided into 10 units organized around interrelated themes for each grade. The themes are stated to be determined through a focus group survey in which learners state their preferred themes for learning English in high school. It is suggested that experiential learning and learning-by-doing should be promoted, and controlled practice of language structures should be given limited amount of time. Instructional materials that can be used in language lessons are required to involve not only print materials but also multimedia materials. The instructional materials that can be used in language classes are listed as digital cameras, mobile devices, Tablet PCs that can be used online or offline. In addition, “offline and / or hard copies of the materials such as transcripts of audios / videos, print screens of online posters / newspapers, DVDs consisting of movies, and interactive learning software which can also work offline” (p. IX) are also suggested to be used in classrooms for a variety of purposes.

Assessment is another important component of the curricular program. It is advised that diverse assessment techniques should be used as students’ language output has a complex nature. For that end, it is suggested that *Discussion Time* activities and video blogs (*V-logs*) can be used to evaluate listening and speaking skills, and *Tech Pack*, *pen-paper in class- exams* and *E-port-folios* can be used to evaluate language components such as lexis, structure, and pronunciation. It is emphasized that communicative assessment tasks had better be designed for assessing students’ language use (pp. IX - X). Student participation, teacher observations, portfolios, projects, and samples from students’ work can be sources for assessment, which encourage student production using English instead of mere memorization and mechanical drills.

In the “Model English Language Curriculum” the 9th grade students’ level of English is determined to be A1/A2 according to CEFR levels (CoE, 2001). For 10th,

11th and 12th grades, these levels were determined to be A2+/B1, B1+/B2, and B2+ respectively. It is stated that:

Although students are expected to be at A2 level at the end of 8th grade according to the 2nd-8th Grade English Curriculum, in practice there is often a need to revise and recycle the content presented in previous classes as students enter the 9th Grade English classrooms with different levels of capacities, English proficiencies, and individual learning differences (p. XIII).

It is also noted that even though functions similar to those covered until 8th grade are addressed, 9th grade A1 level can be designed in a more advanced way in terms of vocabulary and structures compared to 8th grade A1 level. In Model English Language Curriculum, the focus of language lessons are determined as “All four skills integrated with an emphasis on listening and speaking, maximum seven new vocabulary items per lesson, limited pronunciation practice” and main activities are listed as “role-plays/simulations, graphics/charts, paragraph reading and writing” (p. XIII).

3.3.3.4. Description of the course book / workbook for 9th grades

The 9th grade students which participated in the present research study during the first semester of 2014-2015 academic year used an English course book named *Icebreakers* (2014). The book is stated to be at A1.1 level, it is stated that the book has been accepted to be used as a course book for five years starting from the 2014-2015 Academic year and it is noted to be in accordance with the English Language Teaching Curriculum published in 2013. The book consists of six themes (units), each of which has three parts (Part A, Part B and Part C). During the research study, Part B (Everyday Life) of Theme 4 (Personality and Character) was instructed. A brief description of how the target unit is depicted in the course book is as following:

The part starts with vocabulary section involving photos of some daily life routines and the verbs explaining the actions in the photos are written under them. This section is followed by a speaking section in which students are required to make sentences about their routines. The following section is on reading. In that section a short text is given about the daily life of a radio DJ and the text is followed by reading comprehension questions requiring the students to complete sentences based on the text.

After that section, practice section is provided, in that section students are asked to complete the sentences with the correct form of the verbs in brackets and in writing section students are provided with some prompts (such as She/he gets up..., she/he goes to...) and they are asked to write about daily routines of a family member. The following sections again involve vocabulary presentation on household chores and daily routines through related photos and students are asked to match the given phrases with the photos. Another reading text is given on daily routines of a person. This text is followed by reading comprehension questions. In the practice sections, students are asked to complete sentences using appropriate forms of verbs and phrases, they need to consider grammar rules while completing sentences. In listening sections, students are required to listen to the text, and complete the sentences according to the text. And most of the gaps need to be filled with verbs in the form of target grammar points. In speaking sections, students are required to ask and answer questions with their peers about their routines. In the last section, the students are asked to fill in a chart about their daily routines, and they are asked to look at their peer's chart and make sentences about his/her daily routines.

The workbook provided with the course book follows the same route with the course book. It involves a lot of exercises basically on the target form and the target vocabulary items. Exercises are in the form of fill-in-gaps, cloze tests or question-answer type. The basic goal of the exercises is to lead students to make sentences or use verbs in accordance with the target grammar rules instead of requiring them to convey a meaning and be involved in purposeful tasks.

When the objectives stated in the English language curriculum (2014) are taken into consideration, it is clear that the designers of the course book and workbook have tried to involve some authentic elements in the books. However, this authenticity is limited to the use of real photos instead of drawings. The reading texts are constructed in a way that almost all of the sentences in the text are in the form of target structure (that is present simple tense for that unit), and they are written to use basically the target vocabulary items. This case makes the reading texts away from authenticity. If real texts suitable for the level of students were used and target forms were given within a real context, the texts would be expected to be more interesting for students as they would learn new things through such texts instead of reading texts that were clearly “made up”

and that made no sense for the students. In addition, in the curriculum, it is stated that target forms will be given implicitly, and the real focus of lessons will be communication and interaction. For that end, students are required to talk to their peers about their daily routines. This type of speaking activity can be a way of communication. However, this communication or interaction is done out of a context, students just stand up and try to talk about their daily routines, but “why”, just because their book or their teacher wants them to do so. Instead, a real-life context could be prepared, for instance the students might be asked to imagine that they are applying for a work, or they are acting as a police and inquiring a person or so on. If communication is done for a purpose, it gains meaning and it becomes easier for students to connect what they learn to their real life settings (Flowerdew, 1993; Met, 1991). To add, it is often necessary to make students conscious about language structures, therefore, grammar exercises can be used. In that sense, practice parts can have a use in teaching the grammar points. However, they are given as isolated pieces of information. Instead, students can be provided with certain tasks that have to be completed, and during the process of carrying out these tasks, students may have to use the structures for a purpose. When the grammar forms are used in a context, and for meaningful and purposeful ends, they gain a meaning and it becomes easier to make use of them when needed in real life contexts. The listening exercises are grammar-focused, as well. The listening texts are organized in a way that they are basically focused on target grammar form and students are required to get parts of the sentences that are related to the correct use of the target forms. In order to accomplish a meaningful instruction, students need to listen to the texts to be able to learn something, and perhaps to find answers to some questions in their minds, or to be able to complete a task to arrive at a goal.

Another important issue about the content of the course books is the fact that the activities in the course book are basically focused on linguistic intelligence. The fact that there are pictures and photos can be said to address visual intelligence of learners, writing sentences about themselves can address their intrapersonal intelligence and talking to their peers can be expected to stimulate their interpersonal intelligences. It is difficult to find activities addressing their bodily-kinesthetic, naturalist, logical intelligence. At that point, it should be also noted that although visual, intrapersonal and interpersonal intelligences seem to be addressed occasionally, what the students are

expected to do is basically linguistic. Namely, the students are not required to produce anything making use of their visual or interpersonal intelligences. They may be talking to their peers, but the purpose is not communication, they do not try to understand feelings, thoughts of their friends, instead they are just practicing target grammar forms. To be able to say that a certain type of intelligence is addressed, students need to make use of that intelligence to be able solve problems, produce new problems and put forward new products (Gardner, 1983, 1993, 2006).

The organization of the book directly reflects itself in the lessons in the classrooms. As the basic focus of the course book is grammar forms, teachers tend to focus on grammar points as well. During the observations, the researcher noticed that almost all of the questions of the teacher aimed at eliciting answers on the correct use of grammar forms and target vocabulary items. The only task of the students was to complete sentences and answer questions using the target form, which became boring after some time. As students lost their interests in the lessons, even the comprehension of the “easiest” information became a load for them, which reduced their motivation gradually and decreased their success in the lesson. Students’ face expressions and their behaviors such as constantly looking at their watches, talking among themselves and even not opening the related page of the book, and complaining about writing the examples on the board into their notebooks were only some of the signs of students’ boredom, lack of interest and motivation. In such a context, it is often difficult to expect high rates of success in learning English.

3.4. Instructional Procedures Implemented During Research Study

Before presenting the steps one by one in a sample lesson for experimental groups and control groups at both grade levels (6th grade and 9th grade), it is appropriate to put forward a general picture of the instructional practices of both methods, which are traditional method and MI based method. Traditional method was implemented in the control groups at both 6th grade and 9th grade levels as it had been applied before the research study. The researcher did not have any intervention in the English lessons of the control group as they were instructed through traditional way of instruction. The primary emphasis of the traditional method is the correct usage of the grammar forms. Therefore, the teacher tried to make the students aware of the grammar

rules. The focus of the lessons was on the learning of grammar rules in isolation (Broughton et al., 1994, White, 1988). Structured exercises were often used in order to reinforce the usage of the target grammar forms. During the reading and writing activities, the teacher tried to attract the attention of the students to the use of grammar rules instead of meaning of the text. For instance, the textbook included comprehension questions following the reading texts, and instead of encouraging the students to give answers that are correct in terms of their content, they were expected to produce answers that were correct grammatically. Another focus of the lessons was vocabulary learning. The teacher introduced most of the target vocabulary items of the unit in isolation and the students were expected to memorize them (Richards, 2006; White, 1988). The grammar instruction and the correspondences of the vocabulary items were given in the native language of the learners, that is in Turkish. As Richards (2006) stated the techniques used in the classroom that employed traditional way of teaching included memorization of dialogs, questions and answer practice, substitution drills and guided speaking and writing practices, fill-in-the-gaps exercises. In terms of the teacher and student roles, in the classrooms where traditional method was implemented, the teacher was in the centre, being the active person trying to transfer his/her knowledge of target points into the heads of the students. The teacher was often the person starting interactions which often involved asking questions and answering them in order to make sentences in the target form. The students were seen as the passive recipients of knowledge and their basic role was to do the exercises which were often form-focused and often presented without any context (Tharp, 2008; Xu, 1993).

Multiple intelligences activities were implemented in a content-based setting in the experimental groups. The use of MI activities aimed at reaching all the students who had different intelligence types and therefore different learning styles (Armstrong, 2000, 2000b; Gardner, 1993, 1999). The researcher had meetings with the teacher before the language lessons and they talked about what to do during the lesson. The researcher explained the procedures to be followed during the lesson. It should be also stated that the researcher took the opinions of the teacher into consideration and made some changes in the lesson plans when necessary. The researcher provided the teacher with the materials before the lesson and explained how to implement those materials. As the teacher was already familiar with MI theory and had some in-service training on that

subject, she did not have any difficulties in implementing the materials and conducting the activities. Each English lesson involved implementation of two or three MI activities because the duration of the classes was not enough to carry out at least eight activities addressing all of the eight types of intelligences. Examples from the MI activities implemented in the experimental groups can be listed as following: vocabulary games, word-search puzzles, reading, writing activities (verbal-linguistic intelligence); puzzles and games, matching exercises, classifications and categorizations (logical-mathematical intelligence); power point presentations, flashcards, pictures (visual-spatial intelligence); miming games, hands-on activities (bodily-kinesthetic intelligence); playing music, composing a song, singing (musical-rhythmic intelligence); pair work, group work (interpersonal intelligence); writing one's own feelings and thought on a piece of paper, reflecting on one's own learning (intrapersonal intelligence); bringing some objects from natural life, bringing realia into the classroom (natural intelligence). In order to prepare MI based activities, the researcher was inspired by writers such as Bümen (2005), Campbell, Campbell and Dickinson (1999), Gardner (1983, 1993, 1999, 2006), Lazear (2003), Saban (2010), Weber (2005).

The teacher and the researcher aimed at teaching target vocabulary and the target grammar form, however the focus of the lessons was not on structures only. The teacher tried to teach them within a context and through content. For example, when the topic was comparatives, the teacher asked the students to match the adjectives with the related pictures. During such an activity the emphasis was on content and on the matching exercise which seemed to be a game for the students. However, at the same time the students found a chance to learn or at least become familiar with some new vocabulary items within a context. Instead of giving the vocabulary items as a list and in isolation and expecting the students to memorize them, the teacher tried to introduce them within a context and through different activities. For example, she made use of power point presentations, flashcards to introduce new vocabulary items and prepared activities such as word puzzles, games or writing a short sentence or a short paragraph using newly learned vocabulary items so that the students had chance to use vocabulary within a meaningful and purposeful setting which enabled them to learn and remember more easily.

After a general presentation about the instructional processes for MI-based instruction and traditional instruction, the following sections will provide an illustrative description of the procedures followed in both experimental classes in which MI-based activities were implemented and in control classes in which traditional way of instruction was implemented.

3.4.1. MI-based sample lesson implemented in 6th grade experimental group

Before the implementation process started, the researcher tried to prepare activities that addressed all types of intelligences. In addition during the research process, instead of making use of only one activity for each intelligence, the researcher preferred to include numerous activities for each type of intelligence. In addition, the researcher's only concern was not to prepare MI-based activities; she also tried to set a content-based atmosphere in order to enable the students to study in a meaningful, goal-oriented environment. At the beginning of the research study, the researcher determined the instructional objectives in line with the curriculum based on Bloom's taxonomy of learning objectives (see Appendix 3). In order to provide an illustration of the processes that took place in the classroom during the implementation of MI-based activities in a content-based framework, two hours of English classes for the experimental group will be summarized here (see Appendix 4 for the 6th grade lesson plans).

The target grammar form for the 6th grades was comparatives. Instead of introducing the form without any context and through isolated activities, the researcher preferred to introduce the target form through "animals" theme as it was expected that children would be interested in animals and their properties, and a class that was about animals would seem interesting and would attract their attention to the lesson and also trigger their natural intelligence.

At the beginning of the lesson, the teacher (T) played a song on animals and she projected a clip on the board. The names and pictures of animals were shown in the clip. The song and the clip attracted the students' attention. They already knew the names of some animals on the clip and they tried to read the names of the ones that were unfamiliar to them. The song was played twice and the students tried to sing the song

for the second time. This activity would be expected to address musical – rhythmic, visual – spatial intelligences in the classroom. Then the T showed some flashcards on which there were animal pictures. She told the names of the animals and the whole class repeated after her so that visual – spatial, verbal-linguistic and musical – rhythmic intelligences could be involved in the activities. After the T showed the pictures once more and the students repeated their names, the T divided the classroom into five groups each of which consisted of five Ss and distributed a worksheet to each group. In that activity the Ss were required to match the pictures of animals with their names. The correct answers were shared with the whole class afterwards. This activity was expected to trigger interpersonal, visual – spatial, verbal-linguistic intelligences. After the matching exercise finished, the T wanted the Ss to think about their favorite animal and asked them why it was their favorite animal. The T tried to encourage the Ss to tell one or two properties of their favorite animals using some basic adjectives they already knew. This activity could involve some intrapersonal processes. As the previous activity required the Ss to make use of some adjectives in order to describe animals, the T projected a power point presentation on the board to help the Ss use appropriate adjectives. That presentation consisted of pictures under which adjectives describing those pictures were written. The presentation was shown twice. First, the T did not say anything and the Ss just concentrated on the pictures and what was written under them, during the second time the Ss repeated the adjectives after the T. Picture presentations could be expected to be related to visual – spatial intelligence and repetition of the words in a rhythmic way could be related with musical – rhythmic intelligence.

In the second hour of the first day of implementation, the T divided the classroom into five groups. The T called a S from each group one by one and she showed him / her a picture related to an adjective and asked him/her to explain the adjective only through miming for his/her group, his/her group was expected to guess the adjective. If their guess was correct, then they got ten points. It was planned that through that activity the students' interpersonal, bodily-kinesthetic and logical-mathematical intelligences would be triggered. As the following activity, the T distributed each group a word-search puzzle in which the Ss would find ten adjectives through group work. The group that found the most adjectives in five minutes was applauded. Then the puzzle was reflected on the board and Ss came to board and

marked the adjectives. Solving a puzzle with one's friends could be expected to appeal to verbal-linguistic, logical – mathematical and interpersonal intelligences. Towards the end of the class, the T required the Ss to play “hangman” game, which was already a well-known game among the Ss. The T divided the classroom into five groups. In that well-known game, a member from each group came to the board one by one. The T showed an adjective to that group member, s/he drew lines in the same number with the letters of that adjective and the other group members tried to guess the adjective by telling letters. If they knew it correctly, they got a point. That familiar game was expected to stimulate Ss' verbal-linguistic, logical – mathematical and interpersonal intelligences.

The implementation of the research study lasted for nine hours of English, that was three weeks, for the 6th graders. The other seven lessons were also instructed in a similar way as the two lessons described above and in accordance with the lesson plans prepared based on the basic principles of MI theory.

It could be observed that MI activities could attract the Ss' attention to the English lessons as each student could find something that appealed to him / her (Gardner, 1999, 2006). For instance, a student may not like to be instructed through music but some visual spatial elements or bodily kinesthetic activities might have appealed to him. Another student may not prefer being instructed through activities based on linguistic or verbal content, then s/he may have found something interesting in logical-mathematical activities or group works that stimulated interpersonal activities. In short, the target topic of the lesson was introduced or taught through at least eight different ways which led to the preparation of more than thirty different activities throughout the study. Therefore, it could be expected that each and every student could have a chance to be involved in the lesson through activities addressing his/her intelligence profile (Gardner & Moran, 2006; Weber, 2005). Another point about the MI based activities was the fact that those activities provided a stress-free environment as the instruction was not very strict, official or rule-based; instead instructional activities encouraged the Ss to participate in the lesson, to tell their opinions in a relaxed way. As the Ss could have chance to be involved in activities, they could construct the meaning by themselves which might lead to better remembering afterwards (Campbell et al., 1999; Lazear, 2000).

3.4.2. Traditional method-based sample lesson implemented in 6th grade control group

Traditional method was implemented in the control group as it had been done before the research study. Therefore, researcher did not intervene in the teacher's current teaching procedures in the control group. The researcher attended the lessons as an observer. Their regular language teacher went on conducting her lessons as usual. The observations lasted for three weeks, that is nine hours of English, in the control group as well. Two lessons can be illustrated here to provide a framework for comparing the control group with the experimental group. In the first lesson during the research study, the T entered the classroom and greeted the Ss. Then she asked the Ss to open their course books. On the page that the T asked the Ss to open, there were two pictures of a city and a country. She asked the Ss to describe those pictures. After the Ss tried to describe the pictures using some adjectives they had already known, the T asked them which one they would prefer to live in. The Ss tried to give their answers. Then the T asked the Ss to listen to a conversation on the tape recorder and then try to answer a multiple choice test depending on what they listened. The conversation was comprised of basically comparative sentences and the multiple choice items were in comparative form. After the Ss told their answers on the small test, the T came to the board and she explained the basic rules of making comparative forms of adjectives and how to make comparative sentences. She also introduced the irregular adjectives when making comparatives. The Ss noted down the sentences on their notebooks.

In the second hour of lesson, the T distributed a worksheet which involved fill-in-the-gaps exercises that required the Ss to fill in the sentences using the correct comparative form of the adjectives given in the parentheses. Then the T asked Ss one by one to give the correct answers. Then the T asked the Ss to open their workbooks. On that page, there were two pictures for each question and there were two sentences related to those two pictures. The Ss were required to choose the sentence which compared those two pictures correctly. The correct answers were shared with the whole class. The following exercise required the Ss to make comparative sentences about pictures using the cues. There were some pictures and some words were provided and the Ss were expected to make comparative sentences making use of the words given.

The Ss wrote sentences and the correct answers were shared with the whole class. The T wrote the sentences on the board.

The other seven hours of English lessons in the control group during the research study were conducted in a similar way as those two lessons illustrated here. In those lessons, the basic material used in the lessons was course book. In addition, the T brought some digital or paper worksheets into classroom. Those worksheets included exercises such as fill-in-the gaps, multiple choice or true/false items. The basic concern of the lessons was to teach the target grammar form and some target vocabulary items in order to make sentences using the target form. When the teacher's and the students' roles in the classroom are considered, it could be seen that the T was in the centre. She instructed the form in an explicit and direct way and through controlled activities. The Ss were often in passive role listening to their teacher's instructions and doing the exercises that they were required to do. There was not much group work and the Ss often worked individually. Most of the exercises were not prepared within a framework. For example, in one sentence they talked about a city and a country, in the following sentence they talked about some foods, in another sentence they found themselves talking about seasons. The main reason for such a case was the fact that instead of preparing a lesson around a theme that provided a holistic picture; the lessons were formed around a particular grammar point and that grammar point was taught in an isolated way out of a meaningful context.

Although some exercises were fun for the Ss - basically the ones with some comic pictures - most of them were observed to be boring for the students as they were printed on a piece of paper and they were requiring the Ss to make similar sentences using the same grammar form many times. They did not provoke the creative side in Ss. When all the activities and the exercises are considered as a whole, it could be concluded that most of them were prepared in a similar way, there was not a variation in terms of the activities as most of them were done through paper and pencil. The presentation was done in a single way through direct instruction of the grammar form and vocabulary items and through activities most of which were in a similar form such as fill in the gaps, answering comprehension questions, making sentences etc. It was also observed that such instructional processes became boring after some time and the Ss lost interest in the lesson after utmost fifteen or twenty minutes. White (1988)

suggested that in the traditional approach, language instruction was viewed as the presentation of a rule-governed system and a list of lexis, and the instruction applied in the control classes was an example for that statement. In addition, another property about traditional instruction was put forward by Richards (2006). He suggested that traditional view of language instruction considered language as consisting of some blocks such as tenses, phrases, sentence patterns and language instruction was seen as putting together all these building blocks. For that end, repetitive practice and drilling, direct instruction of rules and vocabulary items were among the mostly used techniques (Broughton, 1994).

3.4.3. MI-based sample lesson implemented in 9th grade experimental group

The implementation of the MI based activities in a content based setting for the 9th grades took place throughout 12 lessons, which lasted for two weeks. The researcher had prepared the lesson plans considering the principles of the MI theory, students' level of English, course objectives and considering the fact that each student has a distinct profile of intelligence (Gardner, 1983, 1999, 2006). Their current teacher instructed in the experimental group and the researcher attended the classes as an observer. Two hours of the implementation period will be illustrated here in order to provide a framework about how the implementation was realized. The target grammar point was Present Simple Tense. At the beginning of the research study, the researcher determined the instructional objectives in line with the curriculum based on Bloom's taxonomy of learning objectives (see Appendix 5). In order to instruct that grammar point within a context, "daily routines" and "jobs" themes were selected and activities were organized around those themes and the target grammar point (see Appendix 6 for the 9th grade lesson plans).

In the first hour of the implementation process, the T started the lesson telling that it was a nice, sunny day and asked the Ss what they did usually on such nice days. She asked them to say whatever they remembered. The Ss could use only verbs not sentences to explain what they did. Then she asked the Ss about their typical days and daily routines. The Ss could tell some verbs they knew about what they did on a typical day. While the Ss were trying to explain their daily routines, the T also participated in

their conversations and talked about her own typical days and daily routines. This short conversation could serve not only to enliven the Ss' previous knowledge about daily routines activities but also it could appeal to Ss' verbal-linguistic, interpersonal intelligences. In order to enable the Ss to learn some more verbs about their daily life, the T reflected a power point presentation on which there were pictures about daily life activities and related verbs. The T showed the presentation twice. First, she didn't say anything, the Ss just concentrated on the pictures and what was written under them by themselves, then during the second time the Ss repeated the phrases explaining daily routines after the T. This activity was planned to evoke Ss' visual – spatial, verbal-linguistic, musical- rhythmic intelligences. After that activity, the T divided the classroom into seven groups consisting of five students. She distributed worksheets on which there were pictures and phrases about daily life routines. The Ss were asked to match the pictures and the phrases through group work. Then the worksheets were projected on the board and correct answers were given by the groups. The group work could be expected to appeal to interpersonal intelligences of the Ss while the pictures and the matching exercise could address the visual – spatial, verbal-linguistic and logical – mathematical intelligences of the Ss.

In the second hour of the implementation, the T distributed a word-search puzzle with pictures to the groups. First the Ss were expected to match the pictures and the phrases about the daily routines and then they were required to find these phrases in the puzzle. Then the worksheets were projected on the board and correct answers were given by the groups. This activity was planned to address Ss' visual – spatial, verbal-linguistic, interpersonal, logical – mathematical intelligences. The following activity was similar to the previous one and this time the Ss were expected to fill in a crossword puzzle about daily routines explained through pictures.

Towards the end of the lesson, the T offered to play a miming game and she divided the classroom into seven groups each of which consisted of five Ss. One S from each group came one by one to the board and tried to explain the word for a daily routine on a picture shown by the T, and s/he used only his/her mimes and gestures and his/her group tried to guess the daily routine activity. If they guessed the daily routine activity correctly in one minute then they got ten points. This activity was expected to address Ss' interpersonal, bodily –kinesthetic and logical intelligences. At the end of the

lesson, the T asked the Ss to bring some realia that could be seen as related to certain daily life activities (such as a comb, an egg, bread, soap, clothes etc.) for the next lesson in order to make use of them in an activity addressing their natural intelligence.

When all of the lessons conducted through MI based activities in a content-based framework were considered as a whole, it could be observed that MI based activities provided the T with a wide spectrum of choices in order to present the lesson (Armstrong, 2000, Gardner, 1999). In line with that case, the Ss also had a wide spectrum of chances for being involved in the lessons through various activities, they had the opportunity to participate in the lessons in ways that appealed to them. The Ss did not have to adjust themselves to only one or two types of techniques for language instruction; instead they found ample opportunities to perceive lessons as the MI theory suggests that no one can perceive the world in the same way with others and no teaching strategy can work best for all students at all times (Armstrong, 2000b; Moran, Kornhaber, Gardner, 2006). During the observations, it was also seen that MI based instruction enabled the teacher with various techniques, tools and strategies so that Ss' interest in the lesson increased and they became more motivated to participate in the lessons. It was possible that some activities were boring for some of the students; however, some of them were interesting and could appeal to them and enlivened their attention and interest in the lesson. In short, it could be said that each and every student could find something attractive or interesting in the lessons instructed through MI based activities and that case enabled the Ss to become more enthusiastic and motivated for the lessons, and this case could be expected to lead to an effective learning (Berman, 2002; Johnson, 2006).

When the Ss' and T's roles are considered, it could be observed that the T directed the flow of the lesson through instructions about activities, that is the teacher acted as a guide or mentor (Hoerr, 2003). However, the active side was the students as they were expected to be involved in the activities and to achieve a goal such as finishing a puzzle, winning a point for his/her group, finding a secret word through a puzzle. As they had an objective in their minds, they became more willing to take part in the lessons and therefore they had active roles (Flowerdew, 1993, Met, 1991). The T often had a role of mentoring, organizing and guiding.

3.4.4. Traditional method-based sample lesson implemented in 9th grade control group

In the control group of the 9th grade students, the researcher did not have any intervention in the applications conducted during English classes. The regular teacher of the classroom went on instructing as she had been doing beforehand, that is she went on instructing through traditional method. The researcher attended the classes as an observer. The basic procedures suggested by the traditional way of instruction were similar to the ones observed in the 6th grade control group classroom. In order to present a picture of the 9th grade control group lessons during research study, two lessons can be illustrated here as an example.

In the control group, the target grammar form was simple present tense as it was for the experimental group. In the first hour, the T asked the students to open their books on the page related to present simple tense and daily routines. There were some pictures about daily routines and the students were expected to match the pictures with the related phrases on daily routine activities. After the Ss did the matching, the correct answers were shared with the classroom. Then the T started to give some examples from her own daily routines using sentences formed in first person singular present simple tense. She also wanted the Ss to make similar sentences such as “I get up at half past seven; I brush my teeth at eight o’clock.” She wrote some sentences on the blackboard. There was a reading text on the course books and she asked the Ss to read the text and try to understand it. After the Ss finished reading, the T asked some Ss to read it loudly once. Then they read the text sentence by sentence and tried to translate it into Turkish and also the T told Turkish correspondences of unknown vocabulary items and also wrote them on the blackboard. While reading the texts, the T tried to attract the attention of the Ss to target form, for example she stressed some verbs written in third person singular form asked the Ss to underline them, she also emphasized when third person “-s” was used or not. The reading text was followed with reading comprehension questions. She gave five minutes to the Ss to answer those questions. After they answered the questions, the T asked some of the Ss to tell their answers. When the Ss made errors, the T corrected them immediately. The basic focus of the lesson was the correct usage of the target grammar because it was observed that even the students gave

correct answers in terms of the content of the sentence, but not in terms of the form; the T needed to correct such sentences in terms of their grammatical forms as well.

In the second hour of the lesson, the T asked the Ss to open a table about the grammar rules of present simple tense in their course books. She explained the rules one by one. Then she drew a similar table on the blackboard and explained the rules of present simple tense and she tried to give examples for each form. She also asked the Ss to give similar examples and Ss made sentences that were appropriate for the target form. The T always underlined the verbs in order to attract Ss' attention to the target form. The Ss noted down what was written on the board in their notebooks. The T asked the Ss to do the exercises in their books. The Ss were required to fill in the gaps in the sentences using the correct forms of the verbs given in parentheses. The Ss worked individually to complete the exercise; some of them asked a couple of questions to the T when they did not understand the meaning of a word. After they completed, the T asked some Ss to tell the correct answers randomly and repeated the rules many times.

When an overall evaluation of the lessons carried out in the control group is done, it can be concluded that the basic assumption of the traditional approach was observed in the control groups of the current research study. That assumption can be summarized as the idea that the traditional way of instruction takes it for granted that all the students will learn and understand in the same way and through the same techniques (Gardner & Moran, 2006; Hoerr, 2003, 2016). The target forms were taught in a single way which involved the presentation made by the teacher, the description of the rules in an explicit and isolated way and controlled practice through exercises which were often in the form of fill-in-the-gaps, multiple choice or sentence completion. The students were expected to memorize the rules and be involved in repetitive practice and drilling (Broughton, 1994; Richards, 2006). The Ss' productions were also controlled and they tried to make sentences only for giving examples for a target form instead of making sentences in order to arrive at a goal or to be involved in a meaningful and goal-oriented conversation. Instead of having many colors, the lessons were often in one - or utmost two- color. When the Ss' attitudes are considered it could be observed that most of the time they lost interest in the lesson. They seemed to be bored with hearing the same rules in the same form many times and their motivation for the lesson was getting less and less during the lesson (Johnson, 2006). They seemed to be doing the exercises only

as a task or only because they were required to do them instead of having fun with doing them or trying to arrive at a conclusion through completing the relevant exercises. In addition to the fact that the Ss were bored and tired with that kind of lesson instruction, it could be observed that the T herself was also bored and tired in the classroom. For example, she complained about repeating the same things over and over in the same lesson and again being faced with Ss that did not understand the topic and made many errors. As a result, it can be said that traditional way of instruction which involves application of uniform teaching puts the teacher and the students in a *vicious circle*, the students get bored and do not understand and the teacher becomes bored when faced with students who are bored and uninterested towards lesson; a bored teacher again leads to more bored and unmotivated students and this circle goes on effecting the achievement of students and also teachers negatively.

3.5. Data Collection Instruments

In order to collect data for coming up with answers for the research questions, the researcher made use of a number of instruments. These are grammar achievement tests, vocabulary tests, reading comprehension tests and writing tests. In addition, an attitude scale and interview questions were also used for exploring students' and teachers' attitudes and opinions towards the methods implemented. Before elaborating on the data collection instruments used in the research study, it is more appropriate to explain the basic issues that need to be taken into consideration before starting to develop any measurement instrument for any purpose. These issues are related to the steps that are followed for determining the content and form of the measurement instruments used.

3.5.1. Test developing steps

The researcher had to develop the tests to be used as pre- and post-tests during the research process. Although it was possible to reach some past examinations or other resources of test items already administered in different contexts, they were hardly suitable for the particular situation of the related research study in their entirety. As it was not possible to have exactly the same objectives and the same profile of test takers

with the ones participating in the study, the researcher decided not to use any existing tests. The researcher decided to develop tests the purpose, content, and format of which were suitable for the target units and for the participants' profile (their age, level of English, experience in taking English tests). Another possible problem that arises when past versions of examinations or existing tests are used is the fact that the students may also reach those tests as the researcher does and they may learn the answers, which would deteriorate the reliability and validity of the test (Black, 1999).

Although there is not a complete agreement of experts about the precise steps for test development, within the framework of the present study, the researcher tried to follow the steps for test development suggested by Alderson, Clapham & Wall (1995), Black (1999), Downing (2006), Welch (2006). In general sense, the steps followed for constructing the tests used in the present study are as following:

3.5.1.1. Defining the purpose

The purpose of the test is the first specification that should be addressed when planning to prepare a test (Alderson et al., 1995). Tests can be developed for various purposes. Ivanova (2011, p. 276) presents a classification of the tests based on their purposes:

Proficiency tests are used to measure students' language abilities regardless of any training; achievement tests are used to measure how much of the language taught during a certain period of time has been learned; diagnostic tests are used to identify students' strengths and weaknesses and to plan further teaching; placement tests are used to place students in groups suitable for their language abilities, and aptitude tests are used to predict a student's future success or potential in a language environment.

In the present study, the researcher tried to measure how much of the target language unit (in terms of grammar forms, vocabulary, reading and writing) instructed during the research study was learned by the students. Therefore, the tests were basically achievement tests.

3.5.1.2. Defining objectives

The basic goal of the test developer should be to increase the consistency between what is taught in the classroom and what is tested. In order to test the efficiency of a new or alternative teaching strategy, the researcher needs to be cautious about preparing a test which is consistent with what is taught. Therefore, before starting to prepare a test, the person who will prepare the test should define the learning outcomes or learning objectives clearly, then content to be involved in the test can be determined in line with these objectives, which can increase the validity of the test and ensure the consistency between what is taught and what is tested. Within this framework, Black (1999) claims that the use of broad definitions of objectives (such as the students understand, the students know) leads to ambiguity as it is not so much clear to what the verbs “know” or “understand” refer. Therefore, these terms need to be clarified while determining the objectives. As “objectives are statements of observable behaviors that are indicative of achievement of capabilities (primarily cognitive),” each objective needs to involve a statement of an action or an activity which can be considered as a sign of achievement (Black, 1999, p. 249).

In terms of the present research study, the researcher considered the specifications presented above. The learning objectives were determined on the basis of the English Language Teaching Program published by Ministry of National Education and on the syllabus prepared by the language teachers in line with the Program. The teaching objectives were determined before the administration of experimental design and lesson plans were also prepared in line with those objectives. The tests were developed in consistency with the learning objectives. When defining the objectives, the researcher and the experts who contributed to test development were cautious about determining the objectives as specific as possible. As objectives had better involve verbs that describe observable behaviors, the researcher tried to make objectives as concrete and observable as possible. Each objective involved only one dimension of the teaching unit; therefore, the researcher (and the teacher) could identify the parts understood (or not understood totally) by the students (see Appendices 3 and 5 for learning objectives).

3.5.1.3. Defining content

The content of the test needs to be consistent with what is taught in the classroom and it should be also in accordance with the learning objectives of the lesson (Ivanova, 2011; Sproull, 2002). Thus, the researcher determined the content of the tests based on the course objectives.

3.5.1.4. Determining test specifications

Alderson, Clapham & Wall (1995) suggest a number of specifications that need to be taken into consideration while preparing tests. These specifications involve information about the purpose of the tests, students that will take the test, content of the test, the format of the test, the number of test items and their weighting, test methods, assessment and use of rubrics.

Based on these requirements, a test specification for the tests applied in the present study was devised. For the 9th grade students, the tests were achievement tests administered before and after the instruction of the target unit. The content involved in the test was based on the content instructed during the administration process of the methods. In terms of the students' properties, it was considered that the 9th grade students were exposed to English approximately for six years. Their first language was Turkish and their language level for English was stated to be A1.1 according to The Common European Framework of Reference for Languages (CEFR). Therefore, the content of the tests was determined in accordance with the language level of the test takers. For the 6th graders, the test specifications for the tests were similar to the 9th graders'. The tests were achievement tests administered before and after the instruction of the target unit. The content involved in the test was based on the content instructed during the administration process of the methods. The sixth grade students had been exposed to English for three years. Their first language was Turkish and their language level for English was stated to be A1.1 according to The Common European Framework of Reference for Languages (CEFR). The content of the tests was determined in accordance with the language level of the test takers.

3.5.1.5. Determining the test format

Determination of the test format is of great importance in the process of test development, as the test format is among the most important factors influencing the validity and reliability of the tests (Black, 1999). In designing achievement tests, researchers should consider how to prepare questions so that test takers can display their knowledge of a particular domain. In a general classification, it is possible to design tests in the form of “select a response from two or more options or to construct a response” for measuring students’ knowledge related to objectives in foreign language learning (Purpura, 2013, p. 113). While selected response tasks (or multiple choice tasks) enable to make inferences about learners’ receptive knowledge of the target points, constructed response (CR) tasks enable to make inferences about learners’ language production. In constructed response tasks, learners may be required to make limited production (such as using one word or a short phrase or a short sentence) they may be also required to make extended production (such as writing more sentences). Limited production tasks enable test givers to make inferences about learners’ emergent knowledge of the target learning point while extended production tasks enable to make inferences about learners’ full production or foreign language performance (Purpura, 2013, p.113). On the other hand, selected response items require examinees to choose an answer among a list of several possible answers (Downing, 2006). Selected response items are appropriate for measuring cognitive achievement or ability such as problem solving, synthesis, and evaluation (Haladyna, 2004). Knowledge about standard sentence structure, grammar, and spelling can be tested by selected-response formats (Downing, 2006).

In order to make inferences about a domain of knowledge, ability or cognitive skills, selected response items can be used (Kane, 2006). On the other hand, it should be also stated that selected response items are not appropriate for measuring complex abilities or psychomotor skills requiring the integration and application of high-level complex skills, such as the production of original writing.

Selected-response formats involve many advantages in terms of validity. They contribute to content validity of the test by enabling the test-developer to include a thorough and representative sampling of the knowledge domain that is expected to be

measured (Downing, 2006). In addition, multiple-choice items provide objectivity in scoring and eliminate subjectivity which is another threat to validity and reliability of the test. Another advantage of these types of test formats is the fact that they are less time consuming in terms of administration and scoring although they require quite a lot of time for preparation. It should be emphasized that in order to make use of advantages of selected-response item formats; they should be carefully produced by content experts, reviewed, edited, administered, and scored (Haladyna & Downing, 2004).

Multiple-choice items are the most common type of selected-response formats. A multiple-choice item is comprised of a stem which may be a direct question, or it may be a statement that has some gaps for which correct word/phrase/utterance is given among the options. The item should be clear in terms of what it is asking for. Stems are followed by options and test takers are required to choose the correct or the best/the most suitable answer among the options. Haladyna, Downing and Rodriguez (2002, p. 312) list thirty-one basic principles for writing multiple-choice items. This taxonomy is given in figure 3.1:

Content

1. Every item should reflect specific content and a single specific mental behavior, as called for in the test specifications.
2. Base each item on important content; avoid trivial content.
3. Use novel material to test higher level learning. Do not use exact textbook language in test items to avoid testing only recall of familiar words and phrases.
4. Keep the content of each item independent
5. Avoid overly specific and overly general content.
6. Avoid opinion-based items.
7. Avoid trick items.
8. Keep vocabulary simple and appropriate for the examinees tested.

Formatting concerns

9. Use the question, completion, and best answer versions of conventional multiple-choice items, the alternate choice, true-false, multiple true-false, matching, and the context-dependent item and item set formats, but avoid the complex multiple-choice format.
10. Format the item vertically, not horizontally.

Style concerns

11. Edit and proof items.
12. Use correct grammar, punctuation, capitalization, and spelling.
13. Minimize the amount of reading in each item.
14. Ensure that the directions in the stem are very clear.
15. Include the central idea in the stem, not the options.
16. Avoid window dressing (excessive verbiage).
17. Word the stem positively; avoid negatives such as not or except. If negative words are used, use the word cautiously and always ensure that the word appears capitalized and in bold type.

The options

18. Develop as many effective choices as you can, but research suggests three are adequate.
19. Make sure that only one of these choices is the correct answer.
20. Vary the location of the correct answer according to the number of choices. Balance the answer key, insofar as possible, so that the correct answer appears an equal number of times in each answer position.
21. Place the choices in logical or numerical order.
22. Keep choices independent; choices should not be overlapping in meaning.
23. Keep choices homogeneous in content and grammatical structure.
24. Keep the length of choices about equal.
25. *None of the above* should be used carefully.
26. Avoid *All of the above*.
27. Phrase choices positively; avoid negatives such as not.
28. Avoid giving clues to the right answer, such as
 - a. Specific determiners including *always, never, completely, and absolutely*.
 - b. Clang associations, choices identical to or resembling words in the stem.
 - c. Grammatical inconsistencies that cue the test taker to the correct choice.
 - d. Conspicuously correct choice.
 - e. Pairs or triplets of options that clue the test taker to the correct choice.
 - f. Blatantly absurd, ridiculous options.
29. Make all distractors plausible.
30. Use typical errors of students to create distractors.
31. Use humor if it is compatible with the teacher and the learning environment.

Figure 3.1. A Revised Taxonomy of Multiple-Choice Item Writing Guidelines
(Haladyna, Downing and Rodriguez (2002, p. 312))

Considering all the issues related to the test format in order to increase the validity and reliability of the tests to be applied during the present research study, the researcher thought that the best format to test students' achievement would be the one(s) that the students were accustomed to take. Students often took tests in the form of multiple choices or open-ended questions. When the content planned to be measured and the advantages and disadvantages of each test format are considered, the best testing method was decided to be multiple-choice form (selected-response items). The fact that multiple choice items ensured a high level of objectivity in assessment and it was possible to measure the content in line with the objectives through more than one item also led the researcher to prepare a multiple-choice test for measuring grammar achievement and vocabulary learning for both 6th graders and 9th graders. Besides, the researcher also considered whether it would be appropriate to measure students' knowledge of grammar through essay type questions. However, the fact that some students restrained from using some structures about the correct usage of which they were unsure led the researcher to design tests in the form of multiple-choice items so that the target forms of the related unit could be measured thoroughly. Vocabulary

knowledge could have been also measured through essay type of questions; however in some instances the test raters can find it difficult to decide whether a student knows a word or not. For example, a student can use a word in an appropriate context; but if there are some spelling mistakes it becomes difficult to make sure whether s/he really knows the word, which can decrease reliability of the test. Therefore, for the sake of a higher reliability, multiple-choice items were preferred for measuring vocabulary knowledge, as well. In terms of measuring reading comprehension, some items of the reading tests were also in the form of multiple-choice and some of them were in the form of true/false items and fill in the gaps type of questions. The researcher tried to ensure that the questions could be rated objectively without being open to different interpretations. In order to measure students' writing development, the writing tests required students to produce sentences in an organized way as suggested by Downing (2006). In order to provide a context to write and in order to contribute to an objective scoring, the researcher provided some prompts for the writing tasks.

Writing selected-response items is a demanding job, therefore test developers need to allocate enough time for writing, reviewing, editing, and pretesting the selected-response items in order to develop a reliable and valid test. For that end, the guidelines such as the one presented by Haladyna, Downing and Rodriguez (2002) were illuminating during the process of test development for the present study. In addition, researcher cooperated with content experts and also implemented necessary statistical procedures to ensure the reliability and validity of the tests used in the present study.

3.5.2. Grammar achievement tests implemented in the study

The processes followed for developing grammar achievement tests used within the framework of the present study are described in this section.

3.5.2.1. Knowledge of grammar issue

As the first research question asks whether there are any differences between the experimental group instructed through multiple intelligences activities in a content based context and the control group instructed through traditional method in terms of grammar achievement, the first issue to be handled is about what the knowledge of

grammar refers to and what is meant by “assessing grammar achievement” and “knowledge of grammar” within the framework of the study. The issues of teaching grammar and its role in language learning have been debated for years. Until twentieth century, the dominant view of language instruction put teaching grammar in the center of all the instructional processes. This traditional view of language claimed that the best way to learn a foreign /second language was to study its grammar. Knowledge of the grammar was viewed as a set of rules that can be applied to form grammatical sentences. As a result, the assessment of grammatical knowledge was carried out by requiring the students to memorize the rules and making translations from one language to the other (Mitchell, Myles, and Marsden, 2013). In the late twentieth century, the central role of grammar in language teaching was started to be questioned. Researchers began to emphasize that language learning cannot be limited to mere memorization of certain language rules, instead learning a foreign language should refer to using language for communicative purposes. Today, it is often emphasized that the primary goal of language learning is to communicate effectively in real-life settings (Brown, 2007; Larsen-Freeman & Anderson, 2015). However, even though communication is seen as the basic goal of language learning, the role of grammar is still emphasized in performing an effective communication (Ellis, 2012; Yule, 2010). Lack of knowledge about grammar in a foreign language constrains learners’ language development as grammatical rules enable the learners to produce meaningful utterances and to be involved in communication (Ur, 1996). The central role played by grammar in language teaching and learning (Doff, 2000) makes it inevitable that learners’ knowledge of grammar needs to be assessed somehow in order to figure out whether they are improving in the process of language learning. Assessing grammar knowledge is important as it provides implications for predicting the ability to communicate effectively in second language and as it has potential to enable the teachers to have information about the grammar that needs to be improved.

Grammar can be defined as the set of rules which explain how words or phrases in a language can be combined to make sense (Yule, 2010). In terms of the question about how to assess grammatical knowledge, there is not a consensus as stated by Purpura (2004, p. 4):

There is not a consensus on (1) what constitutes grammatical knowledge, (2) what type of assessment tasks might best allow teachers and testers to infer that grammatical knowledge has been acquired and (3) how to design tasks that elicit grammatical knowledge from students for some specific assessment purpose, while at the same time providing reliable and valid measures of performance.

The basic reason for the lack of consensus is actually the fact that the tools to assess learners' grammar knowledge are actually shaped by the specific purposes of assessment. If an instructor wants to understand whether students acquired specific "rules", some structured tests such as multiple choices, fill-in-gaps can be used to make assessment. However, if an instructor is more interested in assessing whether students are able to use certain grammar rules accurately in specific contexts to convey meaning, then tests that involve a context (such as dialogues) can be supplied and students can be expected to form grammatical utterances which are also suitable for the specific contexts. When the dominant view of language teaching was to make students memorize grammar rules and make translations from one language to the other, the assessment involved making translations and reciting the specific formal rules. As language learning has now a wider scope rather than just making translations from one language to other, there are a wide range of methods that can be utilized for assessing grammar knowledge of students depending on the specific purposes of assessment. These methods involve requiring students to select a grammatically correct answer on a multiple-choice test, to supply a grammatically accurate word/phrase, and to make sentences which are grammatically accurate in a paragraph. In addition, grammatical knowledge of learners can also be inferred from tasks related to four language skills in which the learners need to use grammar accurately to receive and produce meaning appropriately (Purpura, 2004).

Taking all these considerations into account, the present study acknowledges the "knowledge of grammar" as a range of linguistic forms and semantic meanings associated with these forms as suggested by Purpura (2004, 2013; Yule 2010). For instance, -s affix added to a verb is a linguistic form; it has also semantic meanings associated with this form (time reference for present simple tense). Form-meaning interaction can provide language users with resources for conveying and understanding the meaning of utterances in situations in which foreign language is used. Therefore, in

the present study, the researcher tried to prepare test items in order to assess students' ability to use specific grammatical forms in order to convey associated semantic meanings.

3.5.2.2. Development of grammar achievement test for the 9th grades

The first step of developing a grammar achievement test was to determine its purpose to be an achievement test. Then, the researcher determined the objectives based on the English Language Teaching Program published by Ministry of National Education and the syllabus based on that program. In terms of defining goals and objectives, all the possible learning outcomes were considered and each of them was involved in the test (Adıgüzel & Özüdoğru, 2013; Black, 1999; Küçüktekeli & Yılmaz, 2015; Şen & Eryılmaz, 2011).

After the determination of the learning objectives, the researcher prepared an items pool consisting of fifty multiple choice questions and fifteen matching-type questions. When preparing these questions, care was taken in order to ensure that questions would represent all the subject matter of the target unit and the related objectives in order to increase the content validity of the test. Three experts from the field were consulted to ensure the content validity of the test. At that point it should be stated that these experts were also consulted for the validity of vocabulary, reading comprehension and writing tests, as well. The experts were teachers of English working at state high schools for three, five, and nine years respectively. These experts were given information about the purpose of the test. As they already used the same course book with the students participating in the study, they knew the content of the target unit. In addition, these experts were provided with a form involving the criteria on which they were expected to base their comments (see Appendix 21). Some of the learning objectives were found to be measured through more than three-four items, this case suggested an unproportional distribution of test items with regards to the learning objectives. Therefore, five of the items from the multiple-choice items pool and three questions from the matching-type questions were eliminated. Five more multiple-choice items and two more matching-type questions were also eliminated due to reasons such as requiring knowledge of another grammar point (from a higher level) or vocabulary

unrelated with the target unit. As a result, forty multiple choice items and ten matching type questions were left in the draft achievement test.

For the reliability analysis of the draft grammar achievement test, the test was applied to 90 ninth-grade students at an Anatolian High School which was at the same standards with the one involved in the study. The students' academic and socio-demographic characteristics were similar to the ones involved in the study. They used the same course book and had the same hours of English in a week as the students participating in the research. The physical properties of the school and the classrooms were also almost the same. The only difference was that they had already learned the target unit. As they were familiar with the target topic of the test, it was expected that most of them would answer most of the questions. If the test had been applied to students with no knowledge of the content of the test, then most of them would have probably left most of the questions unanswered; such a case would have made the reliability analysis and item analysis impossible. It needs to be stated that the same piloting group was involved in the piloting studies for vocabulary, reading and writing tests, as well.

After the implementation of the draft achievement test, item analysis of the test was conducted, through item analysis, item difficulty and item discrimination indices were calculated.

Item difficulty index (P) is "the percentage of people who answer an item correctly." (McCowan & McCowan, 1999, p. 16). It is calculated by dividing the number of the participants who gave correct answers by all the participants and multiplying the result by 100. It can range between 0.00 and +1.00 (Evroro, 2015; McCowan & McCowan, 1999). If the number of the participant who answered an item correctly is high, item difficulty index becomes closer to +1 and this item is considered to be an easy item. If the number of the participants giving correct answer is low, item difficulty index gets closer to 0 and this item is considered to be a difficult item (Özçelik, 2010). For the multiple choice tests with four distracters, the optimal difficulty level is determined to be .62 (Thompson & Levitov, 1985, cited in McCowan & McCowan, 1999). In addition, Özçelik (2010) states that in general, items in a test should have item difficulty index between .20 and .80. Very easy or very difficult items

contribute little to the discrimination power of the test. It is possible to classify the questions based on their item difficulty index; items with item difficulty index between $.61 \leq P \leq .80$ were considered to be easy; items with item difficulty index between $.41 \leq P \leq .60$ were considered to be moderately difficult and items with item difficulty index between $.20 \leq P \leq .40$ were considered to be difficult (Adıgüzel & Özüdođru, 2013; Küçüktealli & Yılmaz, 2015). In general, it is expected that item difficulty index will be around .50 (Büyüköztürk et al., 2012; Evroro, 2015).

Item difficulty index was calculated for all the items in the draft grammar achievement test, and two items with item difficulty index lower than .20 were considered to be very difficult so they were taken out of the test; in addition one item with item difficulty index higher than .80 was considered to be very easy so it was also taken out of the test.

Item Discrimination Index (D) “compares the number of high scorers and low scorers who answer an item correctly.” (McCowan & McCowan, 1999, p. 18). Item discrimination index can range from -1.00 to +1.00, and if the item discrimination index of an item is negative, it is suggested that this item is taken out of the test as it causes a reverse discrimination of individuals, it is expected that item discrimination index is a positive value. It is possible to make use of the following criteria in order to interpret the item discrimination index values (Büyüköztürk et al., 2012): if item discrimination index (D) of an item is $\geq .40$, it is accepted as a very good item; if D is between .30 and .39, it is reasonably a good item, it can be applied as it is but tiny improvements can be done on it; if D is between .20 and .29, this item should be improved; and if D is $< .20$, this item is considered to be a poor item and it should be taken out of the test or revised completely.

During item discrimination process, the total scores of the participants were rank-ordered, and 27% of the highest and lowest scorers were selected, then a t-test was conducted between these groups in order to see whether the difference between the scores of these two groups was significant (Alpar, 2012; McCowan et al., 1999). On occasions that the significance level is higher than .10 and an item has a discrimination index below .20 or a negative discrimination index, the items are taken out of the draft test (Adıgüzel & Özüdođru, 2013). Three items had a negative discrimination index and

four items had a discrimination index below .30 in the draft grammar achievement test, therefore, they were taken out of the test.

Reliability analysis of the test was also conducted. Reliability analysis puts forward to what extent a test yields consistent scores. Reliability coefficients can range from 0 to 1.00 and they can be interpreted as following: if reliability coefficient is .90 and above, the test has excellent reliability; if it is between .80 and .90, the test has a very good reliability; if it is between .70 and .80, the test has a good reliability, a few items that reduce the reliability can be removed; if it is between .60 and .70, the test has low reliability; if it is between .50 and .60, the reliability is quite low and the test should be revised; if it is between .50 or below, the test has little reliability, it has a questionable reliability; therefore it may be better to use another test (Alpar, 2012; Büyüköztürk et al., 2012). In order to analyze the reliability of the draft grammar achievement test, Cronbach Alpha was calculated and overall reliability of the test was found to be .83, which showed that it was a reliable test.

It should be also stated that, after the test was applied to the group during piloting study, the students were also asked the following questions in order to identify any problem areas. These questions are suggested by McCowan & McCowan (1999, p. 15), and they can be listed as:

Did an item seem confusing?

Did a question give clues about which answer was correct?

Do you disagree with any of the correct answers?

Were you unfamiliar with any of the words used?

Did an item have two correct answers or no correct answer?

Were the instructions clear and easy to understand?

Turkish correspondences of these questions were used during the piloting study; the researcher noted problematic areas and made improvements before the final administration of the test. At the end of these processes, grammar achievement test for the 9th graders was completed. It consisted of 30 multiple choice items, each of which is three points and 10 matching type questions, each of which is one point. The maximum score to be received from that test was determined to be 100 points. It should be also added that, as the piloting group completed the grammar test in 40 minutes, the

participants of the research study were also given 40 minutes to complete the test (Appendix 7).

3.5.2.3. Development of grammar achievement test for the 6th Grades

All the steps followed for developing a grammar achievement test for the 9th graders were also followed for the 6th graders. There are no differences in terms of the analysis and piloting processes. The only difference is the content of the test, objectives and the number of the items. It is possible to summarize the steps followed for the preparation of the grammar achievement test for the 6th graders.

First of all, the researcher determined the purpose of the test to be an achievement test on the target grammar forms (comparatives) of the target unit. Based on the English Language Teaching Program published by the Ministry of National Education and course syllabus, the researcher determined the learning objectives related to the target grammar form. After the determination of the objectives, the researcher prepared an items pool consisting of 35 questions. Three experts were asked to check the items for content validity. At that point it should be stated that these experts were consulted for the validity of vocabulary, reading comprehension and writing tests, as well. The experts were provided with a form involving the criteria for checking the test (see Appendix 20). The experts were from the field, all of them were graduates of English Language Teaching Program. They had been teaching at state primary schools for six, ten and twelve years. In addition, they were using the course book used by the participants of the research study. After expert inspection, seven of the items were removed from the test as they required some additional knowledge of grammar and vocabulary which was beyond the target unit.

The draft test involving 28 items were applied to sixty-five 6th grade students at a primary state school different from the one involved in the study. The piloting group of students was comparable to the ones who were the real participants of the research study in terms of their socio-demographic properties and academic levels. They had been instructed the target unit one week before the application of the draft grammar achievement test. It needs to be also stated that the same piloting group was involved in the piloting studies for vocabulary, reading and writing tests, as well. Item analyses

involving item difficulty index, item discrimination index and reliability coefficients were applied based on the scores attained from the pilot test. In the item discrimination analysis, item discrimination indices for four items were below .20, therefore they were removed from the test. In item difficulty analysis, item difficulty index for two items was below .20, therefore they were regarded as very difficult items and they were also removed from the test. As a last step, Cronbach Alpha was calculated for the reliability analysis, it was found to be .78, which was an acceptable level of reliability and the final version of the test could be applied in that form involving 22 items. However, the researcher planned the maximum score to be attained from the test would be 100, and having 22 items would prevent equal distribution of this score among items. Reconsidering the if any items could be removed from the test, “Cronbach Alpha if item deleted” section was examined again. It was seen that removal of two items would increase the reliability of the test. These two items were also removed and ultimate reliability of the test consisting of 20 items increased to be .81, which is a good reliability for the test.

During the piloting the students were also asked the questions to identify any problematic areas in the test suggested by McCowan et al. (1999). In addition to these questions, they were also asked whether the pictures in the test were understandable as there were some pictures for some questions in the test. Related improvements were done on the test and its final form was applied during the study. As a last but not the least issue, as the piloting group completed the test in 30 minutes, the participants were also given 30 minutes to complete the test (Appendix 8).

3.5.3. Vocabulary tests implemented in the study

As one of the research questions of the present study was to determine whether there were any significant differences between the experimental group instructed through MI based activities in a content based framework and the control group instructed through traditional method in terms of vocabulary learning, the researcher tried to develop an instrument in order to measure participants' level of vocabulary knowledge related to the target units of the study. Although knowledge of vocabulary can have a great range of connotations from simply naming the objects to using appropriate vocabulary items when writing an essay or when making a presentation

about a subject, within the framework of the present study, the knowledge of vocabulary can be defined as recognizing the correct vocabulary item for an object, action or any other phenomena (CoE, 2001). This operational definition of knowledge of vocabulary is used considering the level of the participants to be beginner or A1.1 according to CEFR.

3.5.3.1. Development of the vocabulary test for the 9th graders

The steps for developing a vocabulary test were the same as the ones for developing a grammar achievement test. There are no differences in terms of the analysis and piloting processes. The only difference is the content of the test, objectives and the number of the items.

First of all, the researcher determined the purpose of the test to be an achievement test on the target vocabulary items (daily routine activities) of the target unit. Based on the English Language Teaching Program published by the Ministry of National Education and course syllabus, the researcher determined the learning objectives related to the target vocabulary items. After the determination of the objectives, the researcher prepared an items pool consisting of 55 items. 25 of the items were multiple choice items in which the students were required to select the item describing the given picture and 30 of them were multiple choice questions in the form of sentences requiring the students to fill in the gaps by selecting the most suitable vocabulary item. Three experts, who had been consulted for grammar achievement test, as well, were asked to check the items for content validity. The experts were teachers of English working at state high schools for three, five, and nine years respectively. They were given information about the purpose of the test. As they already used the same course book with the students participating in the study, they knew the content of the target unit. After expert inspection, five of the items with pictures and five items in the form of sentences were removed from the test as they were thought to require some additional knowledge of grammar and vocabulary which was beyond the target unit.

The draft test involving 45 items was applied to 90 ninth-grade students at an Anatolian High School which was at the same standards with the one involved in the study. The school and the group of students involved in the piloting study of the

vocabulary test were the same as the ones involved in the piloting study of the grammar test. Item analyses involving item difficulty index, item discrimination index and reliability coefficients were applied based on the scores attained from the test. As item difficulty index for five items were found between .20 and .40, these five items were considered to be very difficult. Therefore, they were removed from the test. As a last step, Cronbach Alpha was calculated for the reliability analysis, it was found to be .85, which was a good reliability for the test. During the piloting, the students were also asked the questions to identify any problematic areas in the test as suggested by McCowan et al. (1999). In addition to these questions, they were also asked whether the pictures in the test were understandable as there were some pictures for some questions in the test. Related improvements were done on the test. In addition, it took 40 minutes for the piloting group to answer the vocabulary test; therefore, the participants of the research study were given 40 minutes to answer the test. The final form of the vocabulary test consisted of 40 multiple choice items addressing the target vocabulary items in the unit covered during the research study (Appendix 9).

3.5.3.2. Development of the vocabulary test for the 6th graders

The researcher followed the similar steps with the 9th graders for developing a vocabulary test for the 6th graders. There were no differences in terms of the analysis and piloting processes. The only differences were the content of the test, objectives and the number of the items and the piloting group.

It was decided to be an achievement test on the target vocabulary items (adjectives and nouns) of the target unit. Based on the English Language Teaching Program published by the Ministry of National Education and course syllabus, the researcher determined the learning objectives related to the acquisition of the target vocabulary items. After the determination of the objectives, the researcher prepared an items pool consisting of 30 multiple choice items requiring the students to select the correct item describing the given picture. Three experts, who had been consulted for grammar achievement test, as well, were asked to check the items for content validity. They were given information about the purpose of the test. In addition, they were provided with a form involving the criteria on which they were expected to base their

comments. Experts stated that some of the items were repeating each other; therefore, it was decided to eliminate five of the items.

The draft test involving 25 items was applied to 65 sixth-grade students who were also given draft grammar achievement test. Item analyses involving item difficulty index, item discrimination index and reliability coefficients were applied based on the scores attained from the test. The results of the item discrimination index put forward that item discrimination indices for all the items on the test ranged between .50 and .80; therefore, none of the items was removed as a result of the item discrimination index. Item difficulty indices ranged between .45 and .65 so all the items were kept on the test. As a last step, Cronbach Alpha was calculated for the reliability analysis, the reliability coefficient was found to be .87, which was a good enough for the test. During piloting, the students were also asked the questions to identify any problematic areas in the test as suggested by McCowan et al. (1999). In addition to these questions, they were also asked whether the pictures on the test were understandable. Related improvements were done on the test before final application. The final form of the vocabulary test consisted of 25 multiple choice items addressing the target vocabulary items in the unit covered during the research study. In addition, it took 30 minutes for the piloting group to answer the vocabulary test; therefore, the participants of the research study were given 30 minutes to answer the test (Appendix 10).

3.5.4. Reading comprehension tests implemented in the study

In line with the research questions, in order to explore the effects of multiple intelligences activities in a content-based context versus traditional method on reading comprehension development in English, the researcher applied a reading comprehension test as a pre- and post-test at both 9th and 6th grade levels.

The concept of “reading comprehension” may have different connotations. Day and Park (2005) classify the types of comprehension as literal, reorganization, inference, prediction, evaluation and personal response. Forms of questions in order to assess students’ reading comprehension can be listed as fill in the blanks type of questions, yes/no questions, questions giving two alternatives, true or false, Wh- questions and multiple choice questions (Day and Park, 2005). Within the framework of the research

study, the researcher tried to measure students' literal, reorganizing, evaluating and understanding comprehension skills through true/false questions, wh- questions and fill in the blanks type of questions. Prediction and personal response type of questions were not involved in the test as they involve subjective thoughts of the readers and it is difficult to score such items as correct or incorrect (Day and Park, 2005).

3.5.4.1. Development of reading comprehension test for the 9th graders

During the process of preparing reading comprehension test, the researcher first chose a text that was in parallel with the text read during class hours. Then, the researcher developed comprehension questions consisting of fifteen true/false questions, ten wh- questions and ten fill in the blanks type of questions. Three experts were asked for their opinions about content validity of the test. The experts found the text to be suitable for the level of the students and for the content of the target unit. However, they stated that some questions in the true/false section overlapped with the ones in the sections of wh- questions and fill in the blanks type of questions. Therefore, five of the true/false items and five of the fill in the blanks type of questions were removed from the test.

The draft reading comprehension test was applied to the piloting group. The group was asked about their opinions about the text and the questions making use of the questions suggested by McCowan & McCowan (1999). Two of the true/false items were found to be ambiguous by some of the students; therefore, they were rewritten. The final version of the reading comprehension test for the 9th graders composed of ten true/false questions, ten wh-questions and five fill in the blanks type of questions (Appendix 11). In addition, as it took 40 minutes of the piloting group to complete the test, the participants of the study were also given 40 minutes to answer the reading comprehension questions. After the implementation of the reading comprehension test, the students' answers were scored by two experts in order to ensure objective scoring based on the answer key. Inter-rater reliability of the test was calculated to be .81, which was a good level of reliability for the test.

3.5.4.2. Development of reading comprehension test for the 6th graders

In order to prepare a reading comprehension test for the 6th graders, the researcher followed the similar steps followed for the 9th graders. First, the researcher chose a text that was similar to the text read during class hours. Then, the researcher developed comprehension questions, fifteen true/false questions, and fifteen multiple-choice questions. Three experts were asked for their opinions about content validity of the test. The experts found the text to be suitable for the level of the students and for the content of the target unit.

The draft reading comprehension test was applied to the piloting group. The group was asked about their opinions about the text and the questions making use of the questions suggested by McCowan & McCowan (1999). Item analyses involving item difficulty index, item discrimination index and reliability coefficients were applied based on the scores attained from the pilot test. In the item discrimination analysis, item discrimination indices for three items were found to be negative, which meant they reversely discriminated; therefore they were removed from the test. In item difficulty analysis, item difficulty indices of two items were higher than .90, therefore they were regarded to be very easy items and they were also removed from the test. As a last step, Cronbach Alpha was calculated for the reliability analysis, it was found to be .78, which was an acceptable level of reliability. As a result, the final version of the reading comprehension test for the 6th graders composed of fifteen true/false questions and ten multiple-choice questions (Appendix 12). As there were no fill-in the gaps type or short-answer type of questions, objective scoring could be ensured and there was no need to score the items by two different people. As a last issue, it took 40 minutes of the piloting group to complete the test; therefore, the participants of the study were also given 40 minutes to answer the reading comprehension questions.

3.5.5. Writing tests implemented in the study

In order to explore the effects of multiple intelligences activities in a content-based context versus traditional method on students' writing development, the researcher applied a writing test as a pre- and post test.

In general, two methods are widely used in order to measure, evaluate and predict writing skills: One of them is direct assessment which requires the examinee to write an essay or several essays on topic selected by the teacher; the other method is indirect assessment which requires the examinee to answer multiple-choice items in which examinees are often asked to recognize incorrect usages or choose the correct use of a word or a sentence (Cooper, 1984). Both methods have advantages and disadvantages. While direct method enables the teacher to evaluate the writing skills of the students such as introducing the topic, elaborating on it, making conclusion, writing in a coherent way, use of mechanics, vocabulary etc., this method is criticized for obscuring variability among learners and for being too difficult to be evaluated objectively. On the other hand, while multiple-choice writing tests provide an objective evaluation, they consider writing process consisting of discrete points such as use of grammar, use of mechanics and therefore it is difficult to evaluate the overall writing skill of an individual as a whole through multiple-choice writing tests (Cooper, 1984; Massa, 1997).

In addition to format of writing task, the methods for scoring are also a matter of discussion in the field. There are a number of scoring methods. One of them is holistic scoring which involves evaluating a written text as a whole and evaluating its overall impression. It is often used in direct assessment. In holistic scoring, the teacher usually uses a six-point scale in order to score the essays from 1 as the worst and 6 as the best score. Holistic scoring may inform the teacher and the students about their overall writing skill in a particular task; however it does not give a detailed picture about elements of writing such as use of punctuation or mechanics since such mistakes can be ignored for the sake of an overall inspection (Wolcott and Legg, 1998). Another way of scoring can be use of checklists and rubrics. Checklists are lists of criteria on which the evaluation of the students' performances is based. Rubrics involve the criteria and a description of the expected level of performance for each criterion. Analytical scoring rubrics provide the teacher with guidelines to evaluate the performance of the students (Linn & Miller, 2005). Teachers can themselves produce a rubric for particular assignment; a rubric applicable for a writing task may not be appropriate for another task. Depending on the goal of the writing tasks, the content of the rubrics may also change. Analytical scoring enables the teacher to give detailed feedback to students and

also to evaluate the written works in terms of discrete areas based on certain categories. (Wolcott & Legg, 1998). In addition, it should be also stated that categories should be appropriate for the main objective of writing. If categories are kept too broad, then the rater may not be sure about what to involve in each category and may behave inconsistently between two essays. If they are kept narrower, then it may become more difficult to apply the rubric on the written task and interpret the findings. Therefore, the teacher should decide upon determining categories and about the subcategories for each category in line with the objectives of each writing task. Analytic scoring can be said to view writing as a multidimensional process. In analytic scoring various test components are assessed separately, these components include content, organization, cohesion, vocabulary, register, grammar and mechanics (Hyland, 2003). Therefore, analytic scoring provides detailed information on each of these components (Bacha, 2001). It should be also considered that, the components found in analytic scoring rubrics can vary according to the purposes of writing task. Wolcott & Legg (1998) suggest teachers to adapt the analytical rubrics for each assignment and determine what a good answer is. As a last but not least point, it should be also stated that teacher should score the students anonymously for objective scoring and if it is possible, the same person had better score the written work twice or a second person had better score the written piece for the second time using the same rubric (Airasian & Russell, 2011).

The researcher of the present study determined the writing task and its evaluation processes considering the issues summarized just above. The researcher tried to assign the students a writing task that was similar to the ones conducted during the application process of the research study. The content of the task was in line with the content of the target units. As English level of both 9th graders and 6th graders was beginner level (A1.1), the researcher decided to provide the students with some support for writing; therefore as suggested by Grabe and Kaplan (1996), the researcher offered students some “verbal and non-verbal cues to help them to recall information, organize their ideas, and use strategies for planning.” (p.272). In order to ensure an objective scoring, the researcher preferred to use analytical scoring based on a rubric as suggested by Wolcott & Legg (1998). The rubric was adapted from the rubrics developed by Reid (1993) and Bacha (2001) in accordance with the purpose of the writing task and the

students' profiles including their level of English and their writing experiences in English (Appendix 22).

3.5.5.1. Development of writing test for the 9th graders

The writing task required the students to write about their own daily routines and one of their friends' daily routines using affirmative and negative sentences. They were provided with some pictures about the daily routines and they were expected to write in line with those pictures. As it is done with the other tests, the writing test was also given to the same piloting group, their comments were asked. It took approximately 30 minutes to complete the task. Some improvements were done on the pictures along with the suggestions of the students. The written works of the students were scored by the researcher and another expert from the field based on the rubric. The inter-rater reliability was calculated to be .82, which was enough for concluding that the evaluation process was done in a reliable way. Then, the final form of the test was given to the participants of the study (Appendix 13).

3.5.5.2. Development of writing test for the 6th graders

The writing task required the students to compare people and to compare two places making use of the pictures and the related information provided on the test. The content of the test was in parallel to the content of the target unit. Before the application of the test, it was given to the same piloting group, their comments were asked. It took approximately 40 minutes to complete the task. Some improvements were done on the pictures and the information along with the suggestions of the students. The written works of the students were scored by the researcher and another expert from the field based on the rubric. The inter-rater reliability was calculated to be .85, which was enough for concluding that the evaluation process was done in a reliable way (Appendix 14).

3.5.6. Attitude scale towards learning English

Besides achievement tests, another important instrument administrated in this study is the attitude scale towards learning English in order to explore the students'

attitudes towards English lessons before and after the application of methods. The attitude scale used in the study was developed by Altunay (2002). Initially, this scale is composed of five parts. The first part which is called 'Personal Information Form' is composed of six questions related to the students themselves aiming to collect information about their gender, age, class, and their parents' education level, economic condition and profession. The other parts analyze the attitudes of the students towards English, towards exams, lesson program and physical conditions. However, in the scope of this study only the personal information form and the part related to the attitudes towards English are utilized.

The attitude scale towards English consists of seventeen statements that attempted to determine the attitudes of the students towards English lessons. This scale is a five-point Likert-Type Scale used to determine the level of the students' agreement or disagreement on the items. The main reasons for preferring that scale involve the fact that sentence structures and formation of sentences used in that scale are not so complex and Turkish correspondences of the sentences are understandable for both the 6th graders and the 9th graders. Besides, for avoiding possible misunderstandings, the questionnaire was translated into the students' mother tongue. The responses were evaluated by grading the statement sentences like: A: Strongly Agree, B: Agree, C: Undecided, D: Disagree, E: Strongly Disagree. In the preparation of the attitude scale towards learning English, first of all, a pool of items was created. These items were formed by sentences which distinguish whether the students had positive or negative opinions about English. The items which were found to be insufficient or unnecessary were removed from the scale. The opinions of the specialists from different fields were taken and the needed corrections were made in the light of that advice (Altunay, 2002). The pilot study of the questionnaire for reliability was conducted with the piloting groups of students for 9th grades and 6th grades. The findings of this administrations revealed that the correlations of Alpha Reliability Coefficients were 0.84 and .82 respectively. Therefore, it was applied for collecting data on students' attitudes towards learning English in the current study (Appendix 15).

3.5.7. Interview questions

The qualitative part of the current study involved semi-structured interviews in order to get an in-depth understanding of the perceptions and attitudes of both students and teachers about the implementation of MI-based activities in a content-based context to learn/teach English. The basic reason for preferring semi-structured interviews is to give the participants the opportunity to express their thoughts and feelings in detail. In order to explore the rationale behind the quantitative findings, the qualitative data collected through interviews can set the ground. Both the students and the teachers who participated in the study were interviewed to have multidimensional understanding of their viewpoints about the issue of applying MI-based activities versus traditional method based activities in English lessons. For that end, the researcher devised open-ended questions related to the issue and also accepted the fact that the emerging issues during interviewing could be also intertwined in the process of comprehending the thoughts and feelings of the participants related to their experiences during the implementation process (Patton, 2002). The use of semi-structured interviews could also enable the researcher to be flexible about the ordering of questions and to have chances of elaborating on an issue in detail. Therefore, open ended questions were put at the centre of the interviewing process; and related questions that might come about during interviewing could be also asked to lead the participants to elaborate on their thoughts (Merriam, 1998).

During the process of forming interview questions, the researcher wrote down all the possible questions that could be asked, which led to the composition of an item pool consisting of 34 questions. Then the researcher revised all the questions and tried to make the questions open-ended and understandable. The researcher also tried to construct questions in a way that the questions would not direct the participants' responses. After the first revision, 12 questions were eliminated as they were similar to other questions or they involved yes/no type of questions (Bogdan & Biklen, 2007). Then, the researcher cooperated with an expert in order to involve the questions that were relevant in terms of the research objectives; and to edit their wording in order to make questions clear and understandable for eliciting effective answers about participants' feelings, thoughts and experiences related to two instructional methods.

The basic focus of this editing process was to involve questions that were directed towards the research purposes, that is the questions should be targeted at revealing the students' and teachers' attitudes, feelings and thoughts about the implementation of MI-based activities versus their prior experiences related to the traditional method. In terms of the wording of the questions, the researcher avoided using terminology with the students. For instance, instead of saying "multiple intelligences-based activities" the researcher preferred to use phrases such as "in the lessons of the last three (two) weeks" or "during the activities such as singing or silent cinema" so that comprehensibility of the questions could be increased. The researcher tried to avoid using unclear statements and using too long sentences. In addition, each statement included only one question to enable the participants to focus on one issue and talk about it in-depth (Black, 1999). Another issue is the language in which the interview would be conducted; as the native language of all the participants was Turkish, and their level of English was at beginners' level, the researcher conducted the interviews in Turkish. The statements cited in this thesis are translated into English.

The researcher also prepared questions for interviewing the teachers; the questions were actually parallel to the ones directed to students except some of them that were directly related to teachers' opinions. The researcher followed the same procedures for coming up with the last version of the interview questions for teachers. During this process the central point remained to be exploring the teachers' views about the processes of implementing both MI-based and traditional methods. Within this context, the researcher and the expert again tried to make the questions clear and understandable for teachers, avoiding use of much terminology and refraining from any wording that may cause directing of opinions. During the process of preparing interview questions, the interview protocol and consent forms were also prepared in accordance with the guidelines suggested by Creswell (2005) (Appendices 18 - 19).

After the questions were formed, the researcher had to wait for the completion of the process of implementing MI-based activities so that participants could make an overall evaluation of the process. As interviewing all the students that participated in the research study would be time-consuming and as the number of the interviewees increases, the time allocated for each interviewee would possibly decrease due to the conditions of the school and classrooms, the researcher preferred to interview ten

students from experimental groups at both grade levels. These ten students were selected randomly from the classroom list of students paying attention to that five of them were female and five were male students. Interviewing with fewer students randomly selected can enable the researcher to make more in-depth explorations on the issue rather than just touching upon certain issues on the surface. The reason why experimental group was selected for interviewing is the fact that the experimental group was acquainted with both traditional method and MI-based method. Therefore, it would be possible for them to make comparisons between these two methods. As the control group was familiar with only traditional method, they could not be expected to make interpretations about MI-based model. Before interviewing the randomly selected participants, the researcher conducted a pilot interview with three students in order to ask their reflections about the wording of the questions and determine how long the interviewing process takes. It took approximately 15-20 minutes, which could be perceived as a reasonable duration. In addition, the researcher edited the wording of some questions on the basis of comments from the participants of the piloting. The last version of interview questions were administered to a total of twenty students (ten from ninth grade and ten from sixth grade) at two grade levels and to two teachers after the implementation process was finished (Appendices 16 – 17).

3.6. Data Collection Procedure

The procedures followed for collecting quantitative and qualitative data will be presented in this section.

First of all, it must be stated that before the research implementation process started, required permissions from Directorate of National Education had been taken (Appendix 23) in order to implement a research study at the relevant state schools. In addition, the participants of the study were also given the consent forms before the implementation process (Appendix 18).

At the beginning of the research study, the researcher determined the experimental and control groups at both 6th and 9th grade levels randomly. After the piloting of all the data collection instruments and development of lesson plans to be applied at all groups, the implementation process was started.

The grammar achievement test, vocabulary test, reading comprehension test and writing test were applied as pretests in both experimental groups and control groups. Both groups were also given the attitude scale about English lessons. As the statistical analyses conducted on the pretests showed that there was no significant difference between the experimental and control groups at the beginning of the research study, the teachers were said to start to implement the instructional methods. Within this scope, the experimental groups were instructed through MI-based activities in a content based framework while the control groups were instructed through traditional method. The implementation of instructional methods lasted for three weeks for the 6th graders and two weeks for the 9th graders. During this process, the students' own teachers went on teaching in their own classes; the researcher participated in the lessons of both experimental groups and control group as an observer. The researcher did not intervene in the process of instruction in the classrooms; she just made observations and took related field notes. Besides, she provided the teachers with lesson plans before the lessons and she also talked about what to do and how to carry out some activities before the lessons. In addition, after the lessons, she also met with the teachers and conversed about the lessons.

After the implementation process was finished, the grammar achievement test, vocabulary test, reading comprehension test and writing test were applied as posttests in both experimental groups and control groups. Both groups were given the attitude scale towards learning English for the second time. Following the implementation of instructional methods, ten students selected randomly from experimental groups at both 6th grade level and 9th grade level were interviewed. The interviewing sessions lasted nearly 15-20 minutes with each interviewee.

As the last step of the data collection process, the researcher organized the entire field notes collected during observations, and entered the quantitative data into the SPSS program for further analysis.

3.6.1. Ethical considerations

Before the research study was started, all the necessary permissions from the directorate of national education and school administrators were taken. Then, the

researcher prepared protocols for participating in the research study and consent forms for both the students and teachers (Appendix 18). In the protocols, the researcher gave brief information about the scope of the study and the names and current addresses of the researcher and thesis supervisor were given. In the consent letters, the anonymity and confidentiality of participants were emphasized. In addition, the participants were asked for voluntary participation and they were also provided with the information related to their rights, possible risks. The participants were informed about the fact that they could withdraw from the study if they wanted. The researcher also expressed that the data provided by the participants would be utilized only for the purposes of a scientific research (Creswell, 2007).

The researcher prepared interview protocols for interviews, as well (Appendix 19). They also involved information about the scope of the research study, its purposes, and the process of data collection, the participants' rights in terms of confidentiality, anonymity, privacy and voluntarism in addition to the benefits and possible risks of the participation (Creswell, 2007). The researcher kindly invited the individuals to participate in the research study.

During the process of interviewing, the researcher behaved in a friendly manner in order to avoid making the participants stressed. She asked the questions starting from more general questions towards more specific questions. The researcher did not show any inclination towards either of the methods; therefore she also cared for her intonation and gestures and mimics in order to avoid any behavior that may direct the participants to talk in favor of either of the methods. The interviewing sessions were audio taped, and the researcher sometimes took notes during interviewing to make certain points more clear and to ask some further questions.

3.7. Data Analysis

The processes followed for analyzing quantitative and qualitative data will be outlined in this section.

3.7.1. Analysis of quantitative data

The quantitative data obtained from the administration of achievement tests and questionnaire was entered into IBM SPSS 17.0 software for statistical analyses. Considering the research questions and the instruments used for measurement throughout the study and assumptions of each statistical procedures (Black, 1999), the researcher decided about which statistical analyses would be appropriate to conduct.

As the research questions necessitated the comparison of two groups of participants in terms of their scores they got from grammar, vocabulary, reading comprehension and writing, the researcher decided to conduct t-tests. In order to compare the results of groups that are independent of each other (i.e. experimental group and control group), independent samples t-tests were conducted; in order to compare the scores obtained from the same group, paired samples t-tests were conducted (Dörnyei, 2011). While independent sample t-test analyses enabled the researcher to compare experimental groups with control groups in order to see which instructional method was more effective, paired samples t-test analyses enabled the researcher to make a within-group comparison so as to see whether the groups improved from their pretests to their posttests.

In terms of the analysis of data obtained from questionnaires, the researcher first assigned a number to each response option for scoring purposes. As it was a five-point Likert scale, the response options were assigned numbers as ‘strongly agree’ = 5; ‘agree’ = 4; ‘no idea’ = 3; ‘disagree’ = 2; ‘strongly disagree’ = 1. Then, the scores for the items were averaged. Independent samples t-test analyses were conducted on the mean scores to see whether there was a significant difference between groups at the beginning and at the end of the research study (Dörnyei, 2011).

3.7.2. Analysis of qualitative data

In order to analyze the qualitative data collected from interviews and observations, the researcher first transcribed the interviews, and organized the field notes. The researcher read through the transcriptions to be immersed in the content of interviews and get insights about their content, during this process the researcher also tried to identify the content related to the research questions. The transcriptions were

read to determine meaning units based on research questions and literature (Hatch, 2002). Seidman (2013) outlines the steps to be followed for identifying themes and categories in qualitative data. Within this framework, the smaller meaning units were identified, and initial codes were noted down in the margins. The transcriptions were read again and again in order to encode the most appropriate attributes and to label them. Then the codes were united to form themes and categories. The transcriptions were read again within the framework of these categories and the related segments were added while the unrelated ones were taken out. The last version of categories and interview transcriptions were examined, re-checked and evaluated by a peer reviewer to validate the items. As a last step, the categories that provided a deep understanding of the phenomena under the study provided the scope of the research findings related to qualitative data.

CHAPTER FOUR

4. FINDINGS AND DISCUSSION

This part will present the research findings within the framework of the research questions. Thus, first, the findings related to the data collected to explore the effects of MI-based activities in a content-based framework versus the traditional method on 6th grade and 9th grade students' knowledge of grammar, vocabulary, reading comprehension and writing development will be presented. This is followed by the findings of the quantitative analysis of data obtained from attitude scale in relation to the students' attitudes about learning English. Second, the qualitative research findings obtained from the semi-structured interviews with students and teachers will be given. The discussion of the research findings and the possible rationale behind the findings will be done within the framework of the qualitative findings and related literature.

4.1. Research Findings for the 6th Graders

As the current study is conducted at two grade levels (6th and 9th), the quantitative findings will be presented first for the 6th graders and then for the 9th graders.

4.1.1. Findings related to English grammar achievement

In order to find out whether there were any differences between experimental group and control group in terms of their grammar knowledge at the beginning of the research study, a grammar achievement test was applied to both groups. Table 4.1 presents the pre-test results for both groups:

Table 4.1.

T-test Results for Experimental and Control Groups in Grammar Pre-test

Group	N	X	sd	df	t	Sig
Experimental	30	26.40	9.18	58	-.362	.719
Control	30	27.40	10.32			

*p<.05

The data in Table 4.1 present that the mean scores of experimental and control groups in pre-test on grammar were similar. Experimental group had a mean of 26.40 and control group's mean score was 27.40. In order to find out whether the difference between their mean scores was statistically significant or not, an independent samples t-test on pre-test mean scores of both groups was applied. T-test results showed that there was not a significant difference between mean scores of experimental and control groups in pre-test on grammar ($t = -.362$, $df = 58$; $p > .05$). Therefore, it can be said that the groups were identical in terms of their grammar knowledge at the beginning of research study.

In order to make a within-group comparison between pre-test and post-test scores in writing, first paired samples t-test analyses were conducted for both groups separately. These analyses were expected to provide insights about the effects of two instructional methods on development of grammar knowledge from pre-test to post-test. Table 4.2 presents the results:

Table 4.2.

Paired t-test Results for Experimental and Control Groups on Pre- and Post-Grammar Tests

Group		N	X	sd	df	t	Sig
Exp.	Pre test	30	26.40	9.18	29	-8.589	.000
	Post test	30	55.60	19.00			
Control	Pre test	30	27.40	10.32	29	-5.106	.000
	Post test	30	38.20	9.77			

*p<.05

When the Table 4.2 is investigated, it is seen that the experimental group's mean was 26.40 in pre-test and it was 55.60 in post test. It is seen that there was a significant difference from pre-test to post test for the experimental group in grammar test ($t= -8.589$, $df=29$; $p<.05$). On the other hand, mean score for the control group was 27.40 in pre-test and 38.20 in post-test. T-test results suggest that there was a significant difference from pre-test to post-test for the control group in grammar learning ($t= -5.106$, $df=29$; $p<.05$). These results can suggest that both instructional methods had positive effects on increasing students' mean scores from pre-test to post-test within the groups in terms of grammar learning.

As the study aimed at finding out whether there were any differences between the experimental group and the control group in terms of grammar achievement after the application of multiple intelligences in a content based context in the experimental group and the traditional method in the control group, independent samples t-test on post-test mean scores was applied. Table 4.3 presents the results on post-test scores of both groups.

Table 4.3.

T-test Results for Experimental and Control Groups in Grammar Post-test

Group	N	X	sd	df	t	Sig
Experimental	30	55.60	19.00	58	4.071	.000
Control	30	38.20	9.77			

* $p<.05$

The data in 4.3 suggest that mean score of experimental group in post-test increased to 55.60 from 26.40 while that of control group became 38.20 from 27.40. The results present that there was a significant difference between post-test scores of the control group and those of the experimental group ($t=4.071$, $df=58$; $p\leq.05$). This result can indicate that using MI based activities in a content based framework enables students to learn the target grammar point more effectively than the traditional teaching.

4.1.2. Findings related to English vocabulary achievement

In order to find out whether there were any differences between students' knowledge of target vocabulary at the beginning of the research study, an independent samples t-test on vocabulary pre-test mean scores was conducted. The results are given in table 4.4:

Table 4.4.

T-test Results for Experimental and Control Groups in Vocabulary Pre-test

Group	N	X	sd	df	t	Sig
Experimental	30	32.64	9.97	58	.225	.823
Control	30	33.28	10.11			

*p<.05

The data in Table 4.4 present that the mean scores of experimental and control groups in pre-test on vocabulary were similar. Experimental group had a mean of 32.64 and control group's mean score was 33.28 . In order to find out whether there was a significant difference between two groups in terms of their vocabulary knowledge at the beginning of the research study, an independent samples t-test was applied on their vocabulary pre-test mean scores. T-test results showed that there was not a significant difference between mean scores of experimental and control groups in vocabulary pre-test ($t=0.225$, $df=58$; $p>.05$). Therefore, it can be said that target vocabulary knowledge of both groups was identical at the beginning of research study.

In order to make a within-group comparison between pre-test and post-test scores in vocabulary learning, first paired samples t-test analyses were conducted for both groups separately. These analyses were expected to provide insights about the effects of two instructional methods on vocabulary learning from pre-test to post-test. Table 4.5 presents the results:

Table 4.5.

Paired t-test Results for Experimental and Control Groups on Pre- and Post-Vocabulary Tests

Group		N	X	sd	df	t	Sig
Exp.	Pre test	30	32.64	9.97	29	-9.317	.000
	Post test	30	59.20	16.99			
Control	Pre test	30	33.28	10.11	29	-4.021	.001
	Post test	30	44.32	17.76			

*p<.05

When the Table 4.5 is investigated it is seen that the experimental group's mean was 32.64 in pre-test and it was 59.20 in post test. It is seen that there was a significant difference from pre-test to post test for the experimental group in vocabulary test ($t = -9.317$, $df = 29$; $p < .05$). On the other hand, mean score for the control group was 33.28 in pre-test and 44.32 in post-test. T-test results suggest that there was a significant difference from pre-test to post-test for the control group in vocabulary learning ($t = -4.021$, $df = 29$; $p < .05$). These results can suggest that both instructional methods had positive effects on increasing students' mean scores from pre-test to post-test within the groups in terms of vocabulary learning.

In order to understand whether there was a significant difference between the groups, a between group comparison was needed. For that end, after the application of training programs, both groups were given a post-test about the target vocabulary covered during the process of the instruction of target unit. As the study aimed at finding out whether there were any differences in terms of vocabulary achievement between the experimental group instructed through multiple intelligences in a content based context and the control group instructed through traditional method, an independent samples t-test on vocabulary post-test mean scores was applied. Table 4.6 presents the results on post-test scores of both groups.

Table 4.6.

T-test Results for Experimental and Control Groups in Vocabulary Post-test

Group	N	X	sd	df	t	Sig
Experimental	30	59.20	16.99	58	3.027	.004
Control	30	44.32	17.76			

*p<.05

The data in 4.6 suggest that mean score of experimental group in vocabulary post-test increased to 59.20 from 32.64 while the post test mean of control group increased to be 44.32 from 33.28. The results present that there was a significant difference between vocabulary post-test scores of the control group and those of the experimental group ($t=3.02$, $df=58$; $p\leq.05$). This result can be interpreted as an indication of the positive effects of using MI based activities in a content based framework on students' vocabulary learning rather than traditional teaching.

4.1.3. Findings related to development of English reading comprehension

In order to find out whether there were any differences between students' reading comprehension at the beginning of the research study, an independent samples t-test on reading comprehension pre-test mean scores was conducted. The results are given in table 4.7:

Table 4.7.

T-test Results for Experimental and Control Groups in Reading Comprehension Pre-test

Group	N	X	sd	df	t	Sig
Experimental	30	33.12	6.97	58	.567	.57
Control	30	34.40	8.86			

*p<.05

The data in Table 4.7 present that the mean scores of experimental and control groups in reading comprehension pre-test were similar. Experimental group's mean score was 33.12 and control group's mean score was 34.40. In order to find out whether

there was a statistically significant difference between two groups in terms of their English reading comprehension level at the beginning of the research study, an independent samples t-test was applied on their pre-test mean scores. T-test results showed that there was not a significant difference between mean scores of experimental and control groups in reading comprehension pre-test ($t=.567$, $df=58$; $p>.05$). Therefore, it could be concluded that both groups were similar in terms of their level of English reading comprehension at the beginning of the research study.

In order to make a within-group comparison between pre-test and post-test scores in reading comprehension, first paired samples t-test analyses were conducted for both groups separately. These analyses were expected to provide insights about the effects of two instructional methods on development of reading comprehension skills from pre-test to post-test. Table 4.8 presents the results:

Table 4.8.

Paired t-test Results for Experimental and Control Groups on Pre- and Post-Reading Comprehension Tests

Group		N	X	sd	df	t	Sig
Exp.	Pre test	30	33.12	6.97	29	-8.542	.000
	Post test	30	50.24	7.12			
Control	Pre test	30	34.40	8.86	29	-1.374	.182
	Post test	30	35.00	6.88			

* $p<.05$

When the Table 4.8 is investigated, it is seen that the experimental group's mean was 33.12 in pre-test and it was 50.24 in post test. It is seen that there was a significant difference from pre-test to post test for the experimental group in reading comprehension test ($t= -8.542$, $df=29$; $p<.05$). On the other hand, mean score for the control group was 34.40 in pre-test and 35.00 in post-test. T-test results suggest that there was not a significant difference from pre-test to post-test for the control group in reading comprehension development ($t= -1.374$, $df=29$; $p>.05$). These results can suggest that while MI-based method had significant effect on reading comprehension development from pre-test to post-test, traditional method did not have a significant effect within the group in terms of reading comprehension development.

In order to understand whether there was a significant difference between the groups, a between group comparison was needed. For that end, after the experimental group was instructed through multiple intelligences activities in a content based context and the control group instructed through traditional method, both groups were given a reading comprehension test as a post-test. As the study aimed at finding out whether there were any differences between the experimental group and the control group in terms of their reading comprehension development, an independent samples t-test on mean scores attained from the reading comprehension post-test was applied. Table 4.9 presents the results on post-test scores for both groups.

Table 4.9.

T-test Results for Experimental and Control Groups in Reading Comprehension Post-test

Group	N	X	sd	df	t	Sig
Experimental	30	50.24	7.12	58	7.69	.00
Control	30	35.00	6.88			

The data in 4.9 suggest that mean score of experimental group in reading comprehension post-test increased to be 50.24 although it was 33.12 in pre-test while the post-test mean of control group became 35.00 although it was 34.40 in pre-test. The results present that there is a significant difference between reading comprehension post-test scores of the control group and those of the experimental group ($t=7.69$, $df=58$; $p \leq .05$). Results from the statistical analyses can suggest that using MI based activities in a content based framework can help students to develop their reading comprehension skills more than the traditional way of instruction. These results may also be attributed to the fact that MI based method helped students to learn target grammar and vocabulary; as a result, their level of reading comprehension could also be expected to increase.

4.1.4. Findings related to development of English writing skills

In order to find out whether there were any differences between students' writing skills at the beginning of the research study, an independent samples t-test on writing pre-test mean scores was conducted. The results are given in table 4.10:

Table 4.10.

T-test Results for Experimental and Control Groups in Writing Pre-test

Group	N	X	sd	df	t	Sig
Experimental	30	31.48	6.20	58	.481	.632
Control	30	30.40	9.34			

*p<.05

The data in Table 4.10 present that both experimental and control groups had similar mean scores in writing pre-test. Experimental group's mean score was 31.48 and control group's mean score was 30.40. In order to find out whether there was a statistically significant difference between two groups in terms of their English writing skills at the beginning of the research study, an independent samples t-test was applied on their pre-test mean scores. T-test results showed that there was not a significant difference between mean scores of experimental and control groups in writing pre-test ($t=.481$, $df=58$; $p>.05$). Therefore, it could be concluded that both groups were similar in terms of their English writing skills at the beginning of the research study.

In order to make a within-group comparison between pre-test and post-test scores in writing, first paired samples t-test analyses were conducted for both groups separately. These analyses were expected to provide insights about the effects of two instructional methods on development of writing skills from pre-test to post-test. Table 4.11 presents the results:

Table 4.11.

Paired t-test Results for Experimental and Control Groups on Pre- and Post Writing Tests

Group		N	X	sd	df	t	Sig
Exp.	Pre test	30	31.48	6.20	29	-5.970	.000
	Post test	30	51.80	16.00			
Control	Pre test	30	30.40	9.34	29	-1.072	.294
	Post test	30	31.20	8.69			

*p<.05

When the Table 4.11 is investigated it is seen that the experimental group's mean was 31.48 in pre-test and it was 51.80 in post test. It is seen that there is a significant difference from pre-test to post test for the experimental group in writing test ($t = -5.970$, $df = 29$; $p < .05$). On the other hand, mean score for the control group was 30.40 in pre-test and 31.20 in post-test. T-test results suggest that there was not a significant difference from pre-test to post-test for the control group in writing development ($t = -1.072$, $df = 29$; $p > .05$). These results can suggest that MI-based method had more positive effects on improving students' mean scores from pre-test to post-test within the group in terms of writing skill development.

In order to understand whether there was a significant difference between the groups, a between group comparison was needed. For that end, after the process of instruction through multiple intelligences activities in a content based context in experimental group and through traditional method in the control group, both groups were given writing post-test. In order to find out whether there were any differences between the experimental group and the control group in terms of their writing skill development, an independent samples t-test was applied on their writing post-test mean scores. Table 4.12 presents the results on post-test scores for both groups.

Table 4.12.

T-test Results for Experimental and Control Groups in Writing Post-test

Group	N	X	sd	df	t	Sig
Experimental	30	51.80	16.00	58	5.65	.00
Control	30	31.20	8.69			

*p<.05

The data in 4.12 suggest that mean score of experimental group in writing post-test increased to be 51.80 from 31.48 in pre-test while the post test mean of control group became 31.20 although it was 30.40 in pre-test. The results present that there is a significant difference between writing post-test scores of the control group and those of the experimental group ($t=5.65$, $df=58$; $p\leq.05$). The development of writing skill found in that research study does not mean that the students will be able to write effectively about any subject matter. The findings are limited to the target unit covered during the research study. These findings suggest that using MI-based activities within a content-based framework can enable students to develop their writing skill on that particular subject matter; therefore, it can be possible to conclude that immersing MI-based activities in the whole curriculum can contribute to students' writing development in English more than the traditional way of instruction. The development of students' writing skills may also be attributed to the contribution of MI based method to students' knowledge of grammar and vocabulary.

4.1.5. Findings about students' attitudes towards English lessons

The present research study aimed at determining whether there were any differences in terms of students' attitudes towards English lessons between experimental group instructed with MI-based activities in a content-based context and the control group instructed through traditional method. For that end, students were given an attitude scale towards English before and after instructional implementations. Findings related to students' pre-attitude about English lessons are presented in Table 4.13:

Table 4.13.

T-test Results for Experimental and Control Groups for Pre-Attitude Scale

Group	N	X	sd	df	t	Sig
Experimental	30	3.12	.71	58	.086	.932
Control	30	3.10	.70			

*p<.05

In order to determine whether there were any differences in students' attitudes before and after the implementation of instructional methods, an attitude scale was given before and after the implementation. Table 4.13 shows that mean of the experimental group in pre-attitude scale was 3.12 while that of control group was 3.10. In order to see whether the difference in their means was significant, an independent t-test on both groups' pre-attitude means was applied. Results suggest that there was not a significant difference between two groups in terms of their attitudes towards English lessons before the implementation process ($t = .086$, $df = 58$; $p > .05$).

In order to make a comparison between students' pre- and post-attitudes within their groups, paired samples t-test analyses for both groups were conducted. Table 4.14 presents the results:

Table 4.14.

Paired t-test Results for Experimental and Control Groups on Pre- and Post Attitude Scale

Group		N	X	sd	df	t	Sig
Exp.	Pre test	30	3.12	.71	29	-5.053	.000
	Post test	30	3.97	.49			
Control	Pre test	30	3.10	.70	29	-.308	.760
	Post test	30	3.15	.53			

*p<.05

When Table 4.14 is considered, it is seen that experimental group's mean in pre-attitude was 3.12 and it became 3.97 in post attitude scale. There was a significant difference from first measurement to second measurement ($t = -5.053$, $df = 29$; $p < .05$). When the means are considered it can be concluded that the instruction through MI activities in a content based context effected students' attitudes towards English lessons

positively. On the other hand, the control group's pre-attitude mean was 3.10 and it became 3.15 in post-attitude scale. It was found that there was not a significant difference between control group's means before and after the application ($t = -.308$, $df = 29$; $p > .05$).

As a last step, in order to find out whether there were any differences between experimental and control group in terms of their attitudes towards English lessons after the implementation of instructional methods, an independent samples t-test analysis was conducted on post-test means of both groups. Table 4.15 presents the results:

Table 4.15.

T-test Results for Experimental and Control Groups in Post-Attitude Scale

Group	N	X	sd	df	t	Sig
Experimental	30	3.97	.49	58	6.130	.000
Control	30	3.15	.53			

* $p < .05$

Table 4.15 delivers that while experimental group's post-attitude mean was 3.97, control group's post-attitude mean was 3.15. It was found that there was a significant difference between two groups' means ($t = 6.130$, $df = 58$; $p < .05$). When means are considered, it can be seen that MI-based method was more effective than the traditional method in developing positive attitudes towards English lessons.

4.2. Research Findings for the 9th Graders

This section presents the findings derived from the analyses of data collected from the 9th grade students.

4.2.1. Findings related to English grammar achievement

In order to find out whether there were any differences between experimental group and control group in terms of their grammar knowledge at the beginning of the research study, a grammar achievement test was applied to both groups. Table 4.16 presents the pre-test results for both groups:

Table 4.16.

T-test Results for Experimental and Control Groups in Grammar Pre-test

Group	N	X	sd	df	t	Sig
Experimental	35	49.46	18.60	68	.96	.338
Control	35	45.80	12.54			

*p<.05

The data in Table 4.16 present that the mean scores of experimental and control groups in pre-test on grammar were similar. Experimental group had a mean of 49.46 and control group's mean score was 45.80. There was a difference of 3.66 points. In order to find out whether this difference was statistically significant or not, an independent samples t-test on pre-test mean scores of both groups was applied. T-test results showed that there was not a significant difference between mean scores of experimental and control groups in pre-test on grammar ($t=0.96$, $df=68$; $p \geq .05$). Therefore, it can be said that the groups were identical in terms of their grammar knowledge at the beginning of research study.

In order to see the effects of MI-based activities in a content based context and the traditional method within the groups, first paired samples t-test analyses were conducted. These analyses were expected to provide insights about the effects of these two instructional methods on grammar learning from pre-test to post-test. Table 4.17 presents the results:

Table 4.17.

Paired t-test Results for Experimental and Control Groups on Pre- and Post Grammar tests

Group		N	X	sd	df	t	Sig
Exp.	Pre test	35	49.46	18.60	34	-10.674	.000
	Post test	35	67.86	15.80			
Control	Pre test	35	45.80	12.54	34	-1.694	.099
	Post test	35	47.63	13.93			

*p<.05

When the Table 4.17 is investigated, it is seen that the experimental group's mean was 49.46 in pre-test and it was 67.86 in post test. There was a significant difference from pre-test to post test for the experimental group in grammar achievement test ($t = -10.674$, $df=34$; $p < .05$). On the other hand, mean score for the control group was 45.80 in pre-test and 47.63 in post-test. T-test results suggest that there was not a significant difference from pre-test to post-test for the control group in grammar learning ($t = -1.694$, $df=34$; $p > .05$). These results can suggest that MI-based method had a positive effect on increasing students' mean scores from pre-test to post-test within the experimental group while traditional method did not have a significant effect from pre-test to post-test within the control group.

In addition to comparing groups pre and post test means within themselves, post test scores of both groups were also compared to make a comparison between two groups. For that end, independent samples t-test on post-test mean scores was conducted as the study aimed at finding out whether there were any differences in terms of grammar achievement between the experimental group instructed through multiple intelligences in a content based context and the control group instructed through traditional method, Table 4.18 presents the results on post-test scores of both groups.

Table 4.18.

T-test Results for Experimental and Control Groups in Grammar Post-test

Group	N	X	sd	df	t	Sig
Experimental	35	67.86	15.80	68	5.68	.000
Control	35	47.63	13.93			

* $p < .05$

The data in 4.18 suggest that mean score of experimental group in post-test increased to 67.86 from 49.46 while that of control group became 47.63 from 45.80. The results present that there was a significant difference between post-test scores of the control group and those of the experimental group ($t=5.68$, $df=68$; $p \leq .05$). This result can indicate that using MI based activities in a content based framework contributed to students' grammar learning more than traditional teaching.

4.2.2. Findings related to English vocabulary achievement

In order to find out whether there were any differences between experimental group and control group in terms of their knowledge of vocabulary at the beginning of the research study, a vocabulary test was applied to both groups. Table 4.19 presents the pre-test results for both groups:

Table 4.19.

T-test Results for Experimental and Control Groups in Vocabulary Pre-test,

Group	N	X	sd	df	t	Sig
Experimental	35	59.06	13.97	68	-.498	.620
Control	35	60.57	11.30			

*p<.05

The data in Table 4.19 present that the mean scores of experimental and control groups in pre-test on vocabulary were similar. Experimental group had a mean of 59.06 and control group's mean score was 60.57. In order to find out whether there was a significant difference between two groups in terms of their vocabulary knowledge at the beginning of the research study, an independent samples t-test was applied on their vocabulary pre-test mean scores. T-test results showed that there was not a significant difference between mean scores of experimental and control groups in vocabulary pre-test ($t = -.498$, $df = 68$; $p > .05$). Therefore, it can be said that target vocabulary knowledge of both groups was identical at the beginning of research study.

In order to see the effects of MI-based activities in a content based context and the traditional method within the groups, first paired samples t-test analyses were conducted on vocabulary pre and post test means for both groups separately. These analyses were expected to provide insights about the effects of these two instructional methods on vocabulary learning from pre-test to post-test. Table 4.20 presents the results:

Table 4.20.

Paired t-test Results for Experimental and Control Groups on Pre- and Post Vocabulary tests

Group		N	X	sd	df	t	Sig
Exp.	Pre test	35	59.06	13.97	34	-5.253	.000
	Post test	35	71.83	12.93			
Control	Pre test	35	60.57	11.30	34	-2.848	.007
	Post test	35	63.11	11.21			

*p<.05

When the Table 4.20 is investigated it is seen that the experimental group's mean was 59.06 in pre-test and it was 71.83 in post test. There was a significant difference from pre-test to post test for the experimental group in vocabulary achievement test ($t = -5.253$, $df = 34$; $p < .05$). On the other hand, mean score for the control group was 60.57 in pre-test and 63.11 in post-test. T-test results suggest that there was a significant difference from pre-test to post-test for the control group in vocabulary learning ($t = -2.848$, $df = 34$; $p < .05$). These results can suggest that both MI-based method and traditional method had positive effects on increasing students' mean scores from pre-test to post-test within the groups. In order to make a between-group comparison to see whether there were any differences between two groups in terms of vocabulary achievement, independent samples t-test was conducted on post-test scores of both groups. Table 4.21 presents the results on post-test scores of both groups.

Table 4.21.

T-test Results for Experimental and Control Groups in Vocabulary Post-test

Group	N	X	sd	df	t	Sig
Experimental	35	71.83	12.93	68	3.011	.004
Control	35	63.11	11.21			

*p<.05

The data in table 4.21 suggest that mean score of experimental group in vocabulary post-test increased to 71.83 from 59.06 while the post test mean of control group increased to be 63.11 from 60.57. The results present that there was a significant

difference between vocabulary post-test scores of the control group and those of the experimental group ($t=3.011$, $df=68$; $p<.05$). Although traditional method had been effective in increasing students' mean scores from pre-test to post test within the group itself, the results from independent t-test between groups present that using MI based activities in a content based framework was more effective in vocabulary learning rather than traditional teaching.

4.2.3. Findings related to development of English reading comprehension

In order to find out whether there were any differences between experimental group and control group in terms of their reading comprehension at the beginning of the research study, a reading comprehension test was applied to both groups. Table 4.22 presents the pre-test results for both groups:

Table 4.22.

T-test Results for Experimental and Control Groups in Reading Comprehension Pre-test

Group	N	X	sd	df	t	Sig
Experimental	35	53.11	14.42	68	.176	.861
Control	35	53.69	12.71			

* $p<.05$

The data in Table 4.22 present that the mean scores of experimental and control groups in reading comprehension pre-test were similar. Experimental group's mean score was 53.11 and control group's mean score was 53.69. In order to find out whether there was a statistically significant difference between two groups in terms of their English reading comprehension level at the beginning of the research study, an independent samples t-test was applied on their pre-test mean scores. T-test results showed that there was not a significant difference between mean scores of experimental and control groups in reading comprehension pre-test ($t=.176$, $df=68$; $p>.05$). Therefore, it could be concluded that both groups were similar in terms of their English reading comprehension level at the beginning of the research study.

In order to see the effects of MI-based activities in a content based context and the traditional method within the groups, first paired samples t-test analyses were conducted on reading comprehension pre- and post test means for both groups separately. These analyses were expected to provide insights about the effects of these two instructional methods on development of reading comprehension from pre-test to post-test. Table 4.23 presents the results:

Table 4.23.

Paired t-test Results for Experimental and Control Groups on Pre- and Post Reading Comprehension Tests

Group		N	X	sd	df	t	Sig
Exp.	Pre test	35	53.11	14.42	34	-9.360	.000
	Post test	35	64.69	11.85			
Control	Pre test	35	53.97	11.30	34	.478	.636
	Post test	35	53.74	11.21			

*p<.05

When the Table 4.23 is investigated it is seen that the experimental group's mean was 53.11 in pre-test and it was 64.69 in post test. There was a significant difference from pre-test to post test for the experimental group in reading comprehension test ($t = -9.360$, $df=34$; $p<.05$). On the other hand, mean score for the control group was 53.97 in pre-test and 53.74 in post-test. T-test results suggest that there was not a significant difference from pre-test to post-test for the control group in reading comprehension development ($t = .478$, $df=34$; $p>.05$). These results can suggest that MI-based method had positive effects on increasing students' mean scores from pre-test to post-test within the groups while the traditional method did not have any significant effects on reading comprehension development.

In order to make a between-group comparison, conducting independent t-test on mean scores of both groups was necessary. For that end, after the experimental group was instructed through multiple intelligences activities in a content based context and the control group instructed through traditional method, both groups were given a reading comprehension post-test. As the study aimed at finding out whether there were

any differences between the experimental group and the control group in terms of reading comprehension development, an independent samples t-test on mean scores attained from the reading comprehension post-test was applied. Table 4.24 presents the results on post-test scores for both groups.

Table 4.24.

T-test Results for Experimental and Control Groups in Reading Comprehension Post-test

Group	N	X	sd	df	t	Sig
Experimental	35	64.69	11.85	68	3.76	.000
Control	35	53.46	13.07			

*p<.05

The data in 4.24 suggest that mean score of experimental group in reading comprehension post-test increased to be 64.69 though it was 53.11 in pre-test while the post test mean of control group became 53.46 although it was 53.69 in pre-test. The results present that there is a significant difference between reading comprehension post-test scores of the control group and those of the experimental group ($t=3.76$, $df=68$; $p<.05$). Although the development of reading comprehension requires a longer time period, the fact that the texts in the tests were in parallel with the subject matter covered during the application of two different instructional methods can present a framework for interpreting the effects of these methods on reading comprehension. Results from the statistical analyses can suggest that using MI based activities in a content based framework can help students to develop students' reading comprehension skills more than the traditional way of instruction. These results may also be attributed to the contribution of MI based method to students' knowledge of grammar and vocabulary.

4.2.4. Findings related to development of English writing skills

In order to find out whether there were any differences between experimental group and control group in terms of their writing skills at the beginning of the research study, a writing test was applied to both groups. Table 4.25 presents the pre-test results for both groups:

Table 4.25.

T-test Results for Experimental and Control Groups in Writing Pre-test

Group	N	X	sd	df	t	Sig
Experimental	35	36.51	17.13	68	.355	.72
Control	35	37.86	16.55			

*p<.05

The data in Table 4.25 present that both experimental and control groups had similar mean scores in writing pre-test. Experimental group's mean score was 36.51 and control group's mean score was 37.86. In order to find out whether there was a statistically significant difference between two groups in terms of their English writing skills at the beginning of the research study, an independent samples t-test was applied on their pre-test mean scores. T-test results showed that there was not a significant difference between mean scores of experimental and control groups in writing pre-test ($t=.355$, $df=68$; $p \geq .05$). Therefore, it could be concluded that both groups were similar in terms of their English writing skills at the beginning of the research study.

In order to make a within-group comparison between pre-test and post-test scores in writing, first paired samples t-test analyses were conducted for both groups separately. These analyses were expected to provide insights about the effects of two instructional methods on development of writing skills from pre-test to post-test. Table 4.26 presents the results:

Table 4.26.

Paired t-test Results for Experimental and Control Groups on Pre- and Post Writing Tests

Group		N	X	sd	df	t	Sig
Exp.	Pre test	35	37.94	16.55	34	-8.399	.000
	Post test	35	53.57	17.04			
Control	Pre test	35	36.51	17.13	34	-.942	.353
	Post test	35	37.86	15.91			

*p<.05

When the Table 4.26 is investigated it is seen that the experimental group's mean was 37.94 in pre-test and it was 53.57 in post test. It is seen that there is a significant difference from pre-test to post test for the experimental group in writing test ($t = -8.399$, $df=34$; $p < .05$). On the other hand, mean score for the control group was 36.51 in pre-test and 37.86 in post-test. T-test results suggest that there was not a significant difference from pre-test to post-test for the control group in writing development ($t = -.942$, $df=34$; $p > .05$). These results can suggest that MI-based method had positive effects on increasing students' mean scores from pre-test to post-test within the groups while the traditional method did not have any significant effects on writing development.

After the process of instruction through multiple intelligences activities in content based context in experimental group and through traditional method in the control group, both groups were given writing post-test. In order to find out whether there were any differences between the experimental group and the control group in terms of their writing skill development, an independent samples t-test was applied on their writing post-test mean scores. Table 4.27 presents the results on post-test scores for both groups.

Table 4.27.

T-test Results for Experimental and Control Groups in Writing Post-test

Group	N	X	sd	df	t	Sig
Experimental	35	53.57	17.04	68	3.98	.000
Control	35	37.86	15.91			

* $p < .05$

The data in 4.27 suggest that mean score of experimental group in writing post-test increased to be 53.57 though it was 37.94 in pre-test while the post test mean of control group became 37.86 although it was 36.51 in pre-test. The results present that there was a significant difference between writing post-test scores of the control group and those of the experimental group ($t=3.98$, $df=68$; $p < .05$). Results from the statistical analyses can suggest that using MI based activities in a content based framework can help

students to develop their writing skills more than the traditional way of instruction. While these results are interpreted, it should be kept in mind that the pre and post writing tests were about the subject matters covered during the application period of the research study. Therefore, the development of writing skill does not have a large or general connotation; it only refers to an improvement in writing about the subject matters with which students are familiar. These results may also be attributed to the contribution of MI based method to students' knowledge of grammar and vocabulary.

4.2.5. Findings about students' attitudes towards English lessons

The present research study aimed at determining whether there were any differences in terms of students' attitudes towards English lessons between experimental group instructed with MI-based activities in a content-based context and the control group instructed through traditional method. For that end, students were given an attitude scale towards English before and after instructional implementations. Findings related to students' pre-attitude about English lessons are presented in Table 4.28:

Table 4.28.

T-test Results for Experimental and Control Groups for Pre-Attitude Scale

Group	N	X	sd	df	t	Sig
Experimental	35	2.99	.66	68	-.743	.460
Control	35	3.10	.53			

*p<.05

In order to determine whether there were any differences in students' attitudes before and after the implementation of instructional methods, an attitude scale was given before and after the implementation. Table 4.28 shows that mean of the experimental group in pre-attitude scale was 2.99 while that of control group was 3.10. In order to see whether the difference in their means was significant an independent t-test on both groups' pre-attitude means was applied. Results suggest that there was not a significant difference between two groups in terms of their attitudes towards English lessons before the implementation process ($t = -.743$, $df = 68$; $p > .05$).

In order to make a comparison between students' pre- and post-attitudes within their groups, paired samples t-test analyses for both groups were conducted. Table 4.29 presents the results:

Table 4.29.

Paired t-test Results for Experimental and Control Groups on Pre- and Post Attitude Scale

Group		N	X	sd	df	t	Sig
Exp.	Pre test	35	2.99	.66	34	-6.428	.000
	Post test	35	3.93	.71			
Control	Pre test	35	3.10	.53	34	-.398	.693
	Post test	35	3.04	.79			

*p<.05

When Table 4.29 is considered, it is seen that experimental group's mean in pre-attitude was 2.99 and it became 3.93 in post attitude scale. There was a significant difference from first measurement to second measurement ($t = -6.428$, $df = 68$; $p < .05$). When the means are considered it can be concluded that the instruction through MI activities in a content based context effected students' attitudes towards English lessons positively. On the other hand, the control group's pre-attitude mean was 3.10 and it became 3.04 in post-attitude scale. It was found that there was not a significant difference between control group's means before and after the application ($t = -.398$, $df = 68$; $p > .05$).

As a last step, in order to find out whether there were any differences between experimental and control group in terms of their attitudes towards English lessons after the implementation of instructional methods, an independent samples t-test analysis was conducted on post-test means of both groups. Table 4.30 presents the results:

Table 4.30.

T-test Results for Experimental and Control Groups in Post-Attitude Scale

Group	N	X	sd	df	t	Sig
Experimental	35	3.93	.71	68	4.91	.000
Control	35	3.04	.79			

*p<.05

Table 4.30 delivers that while experimental group's post-attitude mean was 3.93, control group's post-attitude mean was 3.04. It was found that there was a significant difference between two groups' means ($t= 4.91$, $df=68$; $p<.05$). When means are considered, it can be seen that MI-based method was more effective than the traditional method in developing positive attitudes towards English lessons.

4.3. Findings from Interview Data Collected from the 6th and the 9th Graders

The basic purpose of involving interviews in the research process was to “understand the lived experience of other people and the meaning they make of that experience (Seidman, 2013, p. 9). It is possible to have an idea about an educational setting through observations, questionnaires and direct inspection of related documents; however, in order to understand people's feelings, thoughts and how they account for an educational application, data collected through interviews provide valuable and in-depth insights about the phenomenon researched (Seidman, 2013). In order to enable the participants to reflect upon their subjective emotions and experiences without being led by the interviewer, the researcher asked open-ended questions. In addition, as Seidman (2013) suggests, instead of requiring the students to remember their experiences in MI based instruction, the researcher tried to ask questions that enabled the participants to “reconstruct” their experiences. Thus, instead of asking “do you remember...? the researcher preferred to ask “what happened, what made you happy / unhappy?” (Seidman, 2013, p. 90). Participants were provided with interview protocols and consent forms before the interviews (Appendices 18-19).

The rationale behind the quantitative findings and the factors leading to outcomes as illustrated by quantitative analysis results will be identified in this section within the framework of the students' and teachers' accounts and related literature.

After the process of analyzing, coding and classifying codes into themes, the themes that were found through the interview data can be presented as following:

4.3.1. Students' accounts about the variety of activities in MI-based classes versus traditional classes

When the students were asked about their experiences of MI-based English instruction, the first thing they did was to compare what they experienced during the research study with their previous language lessons so that they could express their thoughts about MI-based instruction better through comparing it with their previous English lessons conducted through traditional method. As activities comprise the backbone of MI application, students' opinions about the activities conducted in English lessons could set the ground for the qualitative analysis of students' attitudes towards method and English lessons. The researcher asked the students "What kind of activities were you involved in during English lessons of the last two weeks?" and "What kind of activities were you involved in during your previous English lessons?" It was clear from the answers of all the students interviewed that they could see a difference between the instruction during research process and the previous traditional instruction. All of the students referred to activities during the research process and emphasized that they had not been involved in such activities in their previous English lessons. They put the emphasis on the fact that they were exposed to a great variety of activities during MI-based instruction while they were instructed through a single and monotonous way of instruction in their previous classes. The quotations below are a few examples reflecting this issue:

S3 (9th grade): We were involved in a lot of different activities in the lessons. We listened to music, played games, and solved puzzles. They were very enjoyable. In previous English lessons, we did not do so many different activities. We only read texts in the book, filled in the blanks and so on.

S5 (9th grade): In previous lessons, we always did the same things. The teacher asked us to open our books, read some paragraphs, and underline some words. We did exercises like fill in the gaps, answering questions. In these lessons (In MI based lessons), we were involved in a lot of different activities. We were doing different things. Sometimes, we were watching short videos, sometimes we were playing games, and sometimes we were doing puzzles. Lessons were very colorful.

S9 (9th grade): These lessons (MI based lessons) were very different from the previous ones. Because we did a lot of different activities, each lesson involved one or more different activities. For example, in one lesson we played silent cinema, we watched video. In another lesson, the teacher showed us pictures, she made us listen to an English song. In another lesson, we did puzzles, we read texts, and we tried to write something. That is, each lesson was different, so they were not boring. In previous lessons, we always did the same things, sometimes we became bored.

S2 (6th grade): In these lessons (MI based lessons); there were a lot of different activities. The teacher always said ‘now we are going to do another activity.’

S6 (6th grade): We used to often use our books in English lessons. We used to do the exercises in the workbook. Sometimes the teacher used to give us worksheets and we used to fill in the gaps and give answers. All the lessons were similar. But, in these lessons (MI based lessons), we always did different things. We sang songs, we played games, we changed our places, and we did puzzles. There were a lot of different activities.

The other students also gave similar answers suggesting that the traditional way of instruction was based upon a uniform way of instructing. The students were often involved in similar types of activities which were comprised of reading a text in the course books, doing exercises such as filling in the gaps, cloze tests or sentence completion. It could be understood from the statements of the students that the traditional way of instruction was carried out through PPP model. PPP model involves

presentation of a topic, practice (first controlled than free) and production. This model has been often criticized for being ineffective in language teaching (Lewis, 1994; Willis & Willis, 1996). However, most of the teachers and curriculum developers continue to use this method as they think that language learning takes place by building new language forms on top of what has been taught previously through a structured syllabus (Skehan, 1996). During the presentation stage, new linguistic knowledge is introduced and explained by the teacher. The practice stage is divided as controlled and free practice: controlled practice often involves repetition of certain forms, phrases or vocabulary items out of a context and free practice exercises require the students to make changes on the form within the framework of the target form instructed during the lesson. Production stage requires students to use new linguistic knowledge within a context or during activities, which are often not authentic and which are actually structured and limited to the use of the target linguistic form (Ellis, 2004, Willis & Willis, 1996). Application of a traditional way of PPP model restricts the variety of activities that can be utilized in classrooms as noticed by the students in the present research study. It is clear from the statements of the students that traditional way of instruction emphasized students' verbal and logical mathematical abilities while MI based instruction offered a wide range of activities encompassing students' different types of intelligences. While traditional way of instruction tries to teach a material in the same way to all of the learners, MI theory acknowledges that there are different types of intelligences and when applied to educational settings it is possible to come up with a wide range of activities that can be used for each type of intelligences (Armstrong 2000; Berman, 2002; Bümen, 2005; Campbell et al., 1999; Demirel et al. 2006; Gardner, 2006; Saban, 2005; Weber, 2005). MI theory can be applied at educational settings through a variety of different strategies addressing the different abilities of different learners because the basic principle of this theory is the idea that each individual is unique and they have unique way of learning (Blythe & Gardner, 1990; Goodnough, 2001; Moran, Kornhaber, & Gardner, 2006).

4.3.2. Materials used in MI-based classes and traditional classes

The materials used in language classes are of vital importance in terms of effective learning and teaching. In these regards, the participants touched upon the

significant differences they noticed between two instructional methods in terms of materials used in classes. All of the students interviewed agreed upon the fact that the diversity of materials used in MI based classes was much more than the ones in traditional classes.

S1 (9th grade): In our previous English classes we usually used our course books and workbooks. Sometimes the teacher distributes worksheets to us. However, in these lessons (MI based lessons), the teacher brought a lot of different materials into the classroom, such as pictures, songs, videos.

S4 (9th grade): In these lessons (MI based lessons) teacher always had surprises for us. Sometimes, she had some flashcards for us; sometimes, she had a song for us and sometimes she brought a puzzle for us. She sometimes asked us to play a game such as silent cinema, which was a fun for us. In our previous lessons, we used only our books and notebooks.

S7 (6th grade): In our previous lessons, we used only our books, notebooks and workbooks. However, in these lessons (MI based lessons), teacher brought different materials into the classroom. They were like surprises for us. For example, one day she brought pictures, photographs, one day she brought some puzzles, videos and songs. They were very different for us.

S8 (6th grade): We were using our course book and workbook in previous English lessons. In these lessons (MI based lessons), the teacher brought a lot of different things into the classroom, pictures, flashcards, photos. She sometimes wanted us to bring some goods from our houses. For example, I brought my toy car and my friends brought their toys, as well.

S 10 (6th grade): There were a lot of different materials in these lessons (MI based lessons), videos, pictures, puzzles, photographs, and flashcards. They were very colorful and interesting for us. We liked them very much. For example, when I touched them, I felt more involved in the lesson. In our previous English lessons, we did not use so many different materials; we basically used course books and workbooks and sometimes worksheets. And sometimes, the teacher used smart boards to show us some exercises and videos but the exercises were

not very different from the ones in our books, they were not very interesting. Sometimes we watched interesting videos, but we did not do that often.

The statements of the participants are in parallel with the basic principles of MI theory, emphasizing that each individual has distinct ways of learning; therefore each individual has his / her own system for attention, understanding and problem solving (Armstrong, 2003; Gardner, 1993; Stefanakis, 2002;). In applying MI theory in language instruction, teachers need to consider students' diverse ways of learning and need to provide them with opportunities to deal with materials and activities which appeal to their distinct ways of learning (Armstrong, 2003; Berman, 2002; Campbell, 1994, 2004; Christison, 2005; Lazear, 2000). On the contrary, as traditional way of instruction views individuals as similar and as it acknowledges intelligence being comprised of linguistic and logical mathematical capacities, it is the general tendency in traditional language classrooms to give place only to verbal and linguistic activities and materials (Armstrong, 2000b; Stefanakis, 2002).

4.3.3. Students' feelings about the activities and materials used in MI-based and traditional classes

The statements of the students present that the differences between traditional way of instruction and MI-based instruction in terms of the activities and materials utilized in the language classrooms are clearly noticed by them. The researcher also tried to search for students' accounts about their feelings and opinions towards the activities and materials used both in traditional and MI based lessons. All of the students interviewed at both grade levels expressed positive attitudes towards the activities and the materials used in the MI based English classes. The common statements used by almost all the students interviewed to describe their attitudes towards English and the instructional activities were "becoming more enthusiastic and willing to participate in English lessons, having an increased motivation to attend to English lessons, enjoying the activities and the lesson, having fun." On the other hand, they described their feeling towards traditional instructional methods using statements like "boring, become bored, unwilling to participate, not to have any interest in the lesson." Some examples from the

statements of the students can provide a clear picture of their attitudes towards both instructional methods:

S1 (9th grade): In our previous English classes, I used to feel very bored often. The texts were sometimes boring and answering questions about those texts were also very boring. It was as if we were repeating whatever was written in the texts. And the exercises... We always filled in the gaps, and therefore, those exercises became very boring for me and for most of my friends. In these lessons (MI based lessons), we did different things. For example, in a lesson we sometimes did three or four different activities... We listened to a song, we watched a slide, and we played a game. So we were not bored and our interest in lesson increased.

S2 (9th grade): Actually I like English very much. It is nice to talk a foreign language, because it is very important. But it became very boring when we kept on doing the same things. Only the topics were changing but we were doing the same things. Read the book, answer the questions, listen to the teacher, do the exercises. Sometimes, I used to wait for the bell to ring, and sometimes we talked to our friends about things unrelated to the lesson. Although I liked the lesson, my motivation to participate in the lesson became less and less. However, the lessons of the last two weeks were not so. They were different. As the teacher was requiring us to do something different, I and my friends started to feel excited about what was coming as the next activity. Some of the activities were very enjoyable and funny. For example, silent cinema was my favorite one. These different activities increased our interest and enthusiasm for the lesson.

S6 (9th grade) : These lessons (MI based lessons) were great fun for me. I enjoyed the lessons very much because they were very different. Watching a slide with some comics, playing games and doing puzzles were very enjoyable for me and for my friends. We did not understand how the lesson finished. The lessons seemed to be very short. Sometimes, we were saying “teacher, let’s go on, let’s not have a break.” In the previous lessons, even if we were starting the lesson with an enthusiasm, as the lesson proceeded, we started to become bored because we were doing the same things. The texts could be very boring and they

were not very interesting. In terms of the exercises, they were often in the form of fill-in-the-gaps. I was tired of doing them.

S3 (6th grade): I liked these lessons (MI based ones) very much. Because, the activities were very enjoyable. We didn't want them to finish. We laughed a lot, and when we were to enter an English lesson, we were saying "Oley, it is time for English!" We were very willing to have English lessons. In previous lessons, I liked English but, I sometimes felt bored because of always doing the same things. We always did exercises. At the beginning they seemed to be enjoyable, but as time went on, they became boring.

S5 (6th grade): I want to say that the different activities were very enjoyable. For example, the teacher showed us some slides and the pictures on those slides were very funny. We wanted to watch those slides again and again because they were very enjoyable. In addition, we played games, we did puzzles, and we were involved in competitions. We did not want English lesson to finish, we were very enthusiastic about English lessons during these three weeks. In previous lessons, sometimes we did enjoyable things, sometimes the teacher taught us songs, but we did not do such activities often. I like doing activities. Exercises in the books are often very boring.

Students' accounts about their attitudes towards the instructional methods and materials present that their enthusiasm, interest and motivation towards English lessons was positively affected by MI based instructional activities, which is a finding compatible with previous research studies such as (Bümen, 2001; Hoerr, 2000; Yavuz, 2005). Gredler (2005) suggests that social, emotional, and psychological factors within an environment are related to an individual's motivation. If these factors are positive, this person's motivation will increase in positive sense. Therefore, it can be concluded that if a person possesses positive emotions, opinion or attitudes towards applications in a lesson, then this person's motivation for the lesson will increase; and individuals who are motivated can learn a second language faster and to a greater degree (Gass & Selinker, 2008). Through making learning environment interesting and relevant to needs and interests of the students and their level of ability, determining learning goals that are manageable and providing a supportive atmosphere, teachers can make positive

contributions to their students' motivation. In addition, varying the tasks, activities, and materials can avoid boredom in classrooms and increase students' interest levels towards lessons. Increased motivation and interest can be expected to affect students' achievement positively (Hoerr, 2000; Lightbown & Spada, 2010). An important implication of MI theory for educational setting is to integrate psychological, emotional and social factors in language learning, thus, involvement of MI-based strategies in lessons can contribute to increase students' motivation (Diaz-Lefebvre, 2006). As MI theory accepts each individual as a unique person possessing his/her own unique internal mental processes and has implications in terms of instructional strategies appealing to the particular properties and needs of each individual, Adamson, Adamson, Anderson, Clausen-Grace, et al. (2005) and Gredler (2005) contend that multiple intelligences activities can increase students' intrinsic motivation. Use of various activities can provide the learners with a wide spectrum of learning opportunities as a result, each learner can find something addressing his/her personal strengths which is suggested by Barrington (2004) to be an important factor in increasing students' motivation and improving positive attitudes towards lesson. Therefore, providing an enjoyable classroom atmosphere can enable students to become more motivated towards lesson, and as they enjoy learning, they can be expected to learn more easily and effectively (Gregory and Chapman, 2002).

The students were also satisfied with the fact that they were faced with numerous activities among which some of them were certainly more interesting and more appealing to their particular ways of learning and their strengths. This issue was quite clear from their statements about their attitudes towards the activities in MI based lessons as presented above; in addition, their statements about the activities that they liked the most also yields the fact that they were satisfied with being addressed with activities and materials particular for their individual needs and preferences. The researcher asked them about the activities they liked the most, some examples are as following:

S7 (9th grade): Actually most of the activities were very nice. But the one which was unforgettable for me was silent cinema and walking around to find your other half. They were quite fun for me.

S8 (9th grade): I liked visual things very much. For example, flashcards, pictures were very understandable and they were enjoyable.

S1(6th grade): All of them were very beautiful. I liked composing a song and singing it in front of our peers and teacher. Composing and singing was enjoyable and also watching others while they were singing was also great fun.

S4(6th grade): I liked working with animal pictures and talking about their properties. In group work, sometimes we imitated those animals, it was very funny, and the pictures were very nice. We asked the teacher to give them to us and she said that we could keep them.

S7(6th grade): I liked silent cinema very much, and I liked doing puzzles like hanging man. It was very enjoyable and we learned a lot of words.

These statements are only a few of all the statements which involve implications of being satisfied with the application of a wide range of activities at least a couple of which appeal to their individual ways of learning, needs, and emotions. Involvement of differentiated teaching strategies leads to higher motivation and positive attitudes on behalf of the students (Armstrong, 2002; Gardner, 1999; Tomlinson, 1999). Mettetal, Jordan, Harper and Sheryll (1997) suggest that involving different types of methods enable students to find opportunity to see the areas in which they are strong, and as they discover their strengths, their motivation towards lessons increases and they automatically develop positive attitudes towards lessons. Contrary to traditional method emphasizing linguistic and logical-mathematical intelligences, MI classes encourage the involvement of all kinds of intelligences. Therefore, MI classes can embrace more students, leading students to have entertaining experiences and positive feelings during lessons (Stanford, 2003).

4.3.4. Teacher and student roles in MI-based and traditional classes

While talking about the classroom processes during the application of MI-based activities, roles of teachers and students in the lessons came out as another distinct issue. Students touched upon their status in the classroom during lessons. All the

students interviewed agreed upon the idea that they became more active during the process of the application of MI-based activities. Some examples from their statements are as following:

S3 (9th grade): In our previous lessons, the teacher used to explain us the topic and we used to listen to her. Then she used to ask us to do some exercises and we would do them and then we would give the correct answers one by one or altogether. Now, we seem to be doing everything by ourselves. The teacher is explaining the basic rules or criteria of the activities and then we are doing the activities with our friends.

S4 (9th grade): Our previous English lessons were similar to each other very much. The teacher was always explaining the topic and we were always writing the things on the blackboard in our notebooks. We sometimes asked the questions and we talked only to answer the questions in the exercises. In these lessons (MI-based lessons), we are involved in many activities. We are very active. The teacher is helping us, but we are doing the things by ourselves and with our friends.

S10 (9th grade): In English lessons, our basic task was to listen to the teacher. We were learning from the teacher and from our course book and sometimes from worksheets. Everything was quite similar to each other. In these lessons, we are learning from our teacher, too. But, we are also learning from a lot of different materials such as power point presentations, flashcards, puzzles, pictures. Our task is to be involved in role plays and group works so we also learn from our friends. We also produce things such as a picture, a song or a puzzle.

S2 (6th grade): In English lessons, the teacher was explaining us the rules and she was giving some examples. And we were writing examples and rules in our notebooks. In these lessons, we do a lot of activities. We are very active in the classroom. We are sometimes walking in the class, sometimes do role plays, sometimes come to the blackboard and act like an actor.

S3 (6th grade): In English lessons, our teacher used to talk very much. She used to explain rules, give examples, and tell vocabulary. We were talking in

order to answer the questions and to give examples. We used to sometimes sing songs but we did not do that very often. In these lessons (MI-based lessons), we are doing everything, the teacher is teaching us of course but we are doing a lot of activities, we talk, play games, and we also teach each other during activities such as group work and pair-work.

S9 (6th grade): In our previous English lessons, we were always sitting and listening to teacher and doing exercises in our books. We used to sometimes watch videos but not so often. We were writing a lot of things in our notebooks. In these lessons (MI-based lessons), we often move around. We sometimes do role plays, sometimes form groups and do group work; we sometimes walk and find things during activities. We are very active.

In theory, there is a clear distinction between traditional and MI-based classes in terms of students' and teachers' roles in the classrooms. While traditional approach gives a central role to the teacher, MI-based classes put students in the centre. In addition, in traditional classes, teachers' basic role is to present the day's topic and require the students to do certain activities under the teacher's control. In MI-based classes, the teacher's role involves providing guidance to students during the activities. While students have a passive role in traditional classes, students have active roles in MI-based classes. Having active roles in learning environment increases students' motivation and self-esteem and contributes to the development of positive attitudes towards lesson (Mettetal et al., 1997). The basic role of the teacher is to prepare a rich environment which provides opportunities for all students who have a unique combination of intelligences so that each student can find an activity addressing his/her own way of learning (Stanford, 2003; Tomlinson, 1999). Therefore, students can feel that they are active in the classroom and they take part in the process of teaching and learning, which can maximize their learning (Moran, Kornhaber & Gardner, 2006). If they are continuously given passive roles and behaved as if they are passive recipients of knowledge, then it can be concluded that they will become bored, lose their interest in the lesson and will develop negative attitudes and feelings towards the lessons. On the contrary, MI based activities enable the students to be active producers of knowledge (Gardner, 2006), which increases their motivation for the lesson and

contributes to their attitudes towards lesson positively. As put forward in some of the statements of the students, MI-based activities promote cooperative learning. Students are given chance to work cooperatively not only with their teachers but also with their peers. Cooperative working with the students enables the teachers to see the areas in which students are strong so that s/he can develop strategies and prepare activities addressing students' different ways of learning (Johnson, 2006). In addition, students are often given chance to work cooperatively with their peers through group works and pair works so that they can teach each other and learn from each other. They learn content of the lesson and they learn to develop social relations, as well, and this is a process which enables students to have active roles in the classroom and in their learning process.

It can be concluded that teachers' and students' roles are different from the ones in traditional way of instruction. MI based activities enable the teacher to teach effectively by moving beyond blackboard and text books and through addressing students' ways of learning. In addition, MI based activities enable the students to become more active in learning process and to express themselves in the learning environment (Gregory and Chapman, 2002; Hoerr, 2000, 2016).

4.3.5. Students' accounts about grammar learning through MI-based versus traditional instruction

As the research questions of the present study sought answers about the effectiveness of MI-based activities and traditional method in English grammar and vocabulary learning and in their reading and writing development, during the process of interviewing the researcher asked questions to get insights about students' opinions related to the issues of grammar and vocabulary learning and reading and writing development. The researcher asked about students' experiences about learning target grammar point. The common point of all the answers given by the students was that they were able to give a meaning to the grammar rules and they were able to discern the contexts in which they needed to use the target grammar forms. Some statements are as following:

S2 (9th grade): In grammar learning, we used to try to memorize the rules beforehand. It was difficult to decide whether we should use one form or the other when trying to make sentences. In the lessons of the past two weeks, we used the new grammar rules repeatedly; we used them not only in exercises such as fill-in-gaps but also during activities such as singing, role-playing, doing puzzles. Therefore, grammar rules became more meaningful for us.

S5 (9th grade): In our previous lessons, we tried to memorize the grammar rules and we made a lot of mistakes when we were trying to make sentences because we often forgot the rules. In these lessons, as we used the rules often and in different ways, in different activities, we even did not recognize how we learned them.

S7 (9th grade): In our previous English classes, I sometimes found the grammar rules similar to the rules in math. We had to memorize the rules and use the vocabulary in accordance with these rules to make sentences like putting the various elements in a formula. But in these lessons (MI based lessons), I did not recognize how I learned the rules. I think we came across the rules in a lot of activities and learned them unconsciously.

S6 (6th grade): I did not like memorizing the rules because I often forgot them and became confused about using them. But in these lessons (MI based lessons), the teacher did not want us to memorize the rules. We learned them through pictures, slides and games, so they were enjoyable.

S8 (6th grade): In previous lessons, it was difficult to remember the rules to make sentences. I could not combine words and rules. But in these lessons, there were some tips. For example, we listened to a song and when we were confused when making a sentence the teacher reminded us that song and then we could remember how to make the sentence. It was easier and funnier for us.

When the statistical findings related to students' test scores on their grammar knowledge are considered within the framework of their statements about grammar learning and their attitudes towards the activities and materials used in the lessons, the factors behind the fact that the group instructed through MI-based activities in a content based context outperformed the other group instructed through traditional approach can

be discerned in a clear way. As students point out, in traditional way of instruction their learning depended on the memorization of rules, which has been considered to be an ineffective way of learning by them as the memorization of rules out of context makes it difficult for the learners to recall them when they need those rules (Norris & Ortega, 2000; Pica, 2002). On the other hand, MI-based activities provide the language learners with a contextualized learning environment (Campbell et al. 1999; Gardner, 2006; Tomlinson, 2008) which makes it easier for them to recall the language forms and use them automatically when they need. This case leads to increased achievement rates on behalf of the group instructed through MI-based instruction. Besides, as students express positive attitudes and increased levels of interest in the lessons, then it can be expected that they will be able to learn the target forms easily; as a result they can attain higher levels of success in the tests.

4.3.6. Students' accounts about vocabulary learning through MI-based versus traditional instruction

Students were also asked about their experiences in terms of learning target vocabulary items both in MI-based lessons and traditional method based lessons. Some examples from their accounts can be presented as following:

S8 (9th grade): In our previous lessons, we tried to memorize vocabulary items in lists. The teacher gave us Turkish correspondences and sometimes she explained their meanings in English and we estimated their Turkish correspondences. As I liked English, I liked memorizing words, but sometimes it was very difficult to memorize a lot of vocabulary items in one day. In the lessons of past two weeks, we were not given a list of vocabulary items; instead they were instructed through pictures and we did a lot of activities in which we used new vocabulary items, so it became easier to remember new vocabulary items.

S10 (9th grade): In order to learn new words, I used to prepare vocabulary lists and try to memorize them. I could memorize them but I easily forgot them after the exams. In these lessons, I again made lists of vocabulary but this time memorizing them was very easy. I noticed that I already learned

most of those words in the lessons. I think pictures, games, flashcards helped me to remember vocabulary items. I'm going to try to learn words through drawing pictures from now on.

S1(6th grade): In order to memorize words, the teacher used to want us to write new words ten times, twenty times in our notebooks. I could memorize them but I often forgot them when we passed to new unit. In these lessons (MI-based lessons), teacher gave us pictures and puzzles for new vocabulary, when we were trying to do matching activities and solving the puzzles, we could learn words easily. We sometimes used new English words even to make jokes to each other.

S4 (6th grade): Beforehand, we were writing new words ten times, twenty times in our notebooks to memorize them. It was very tiring and I did not like it very much. In these lessons (MI-based lessons), we did a lot of activities about new words. For example we played silent cinema, and sang a song using new words, and I noticed that I could learn new words without being aware of learning. These activities were very beautiful.

S7 (6th grade): In our previous lessons, we tried to memorize words, but when we tried to make sentences we always used the same words such as “go, play, drink, watch.” In these lessons (MI-based lessons), I noticed that we started to use different words, as well, for example we could use some different words such as “travel, walk, weight.”

Students' accounts about their experiences in learning target vocabulary put forward the importance of contextualized learning as promoted by content-based instruction (Lyster, 1998; Rodgers, 2006; Spada & Lightbown, 2008) and MI theory (Gardner, 2006, 2006b). As students in MI-based lessons are provided with conditions in which they can use vocabulary within a context, it becomes easier for them to learn and remember those items afterwards. The statistical findings of the current study also pointed out that MI-based instruction was more effective in vocabulary instruction than the traditional method. This finding was in consistency with the other research studies such as (Pekderin, 2006) and Yavuz (2010). The use of different materials and activities also stimulate students' learning and retainment so that they could get higher scores

than the control group students who were instructed through traditional method and who had to memorize words in isolation. Students often touched upon the fact that pictures, flashcards and songs made it more enjoyable and easier to learn new words. This case underlines the basic principle of MI theory, which suggests that individuals have unique ways of learning and as long as they are addressed through their dominant intelligences, they can learn more and more effectively (Campbell et al., 2004). On the other hand, traditional way of instruction obliged the students to learn vocabulary through only one way no matter how different each student is, and this way was often memorization of words out of context and through writing each vocabulary item many times. As such kind of a uniform way of instruction does not address each student's uniqueness, it is often considered as an ineffective way of instruction. All the statements of the students and relevant literature imply why the groups instructed through MI-based activities in a content-based framework outperformed the group instructed through traditional method. Contextualized instruction and a learning environment rich in various activities and materials addressing different intelligence profiles of students lead to more effective learning of vocabulary than the traditional way of instruction which involved writing and memorization as a way of teaching vocabulary (Campbell et al., 2004; Tomlinson, 2001).

4.3.7. Students' accounts about their reading experiences through MI-based versus traditional instruction

Students were also asked about their reading comprehension experiences in English lessons before and during the application of MI-based activities. Most of the students stated that in their previous lessons, they were required to be involved in reading activities at the beginning of a new unit and therefore, they seemed to be confused about whether they were required to read a text to comprehend it or to see it as a grammar exercise in their previous English lessons. In addition, most of the 9th grade students pointed out their dissatisfaction about the length of the reading texts and the number of new, unknown words in the texts. They stated that when the texts were too long, they became bored and in addition, when there were many words the meaning of which they did not know, they could not understand the texts and they lost their interest in them. On the other hand, most of the students interviewed expressed satisfaction

about the length of the texts used during the MI application process. They were also content that they could talk about their opinions about a reading text without being obliged to make grammatical sentences. Some statements are as following:

S7 (9th grade): In our previous lessons, we usually read the text at the beginning of a new unit. And when there were a lot of new words and new structures, it was very difficult to understand. Sometimes the texts were very long. In these lessons (MI based lessons), the texts were not so long, and as we were asked to read them after we learned new words through other activities, it was easier to understand them. Those activities we did before reading provided us with a background to understand the texts

S9 (9th grade): When answering the reading comprehension questions in our previous lessons, we had to pay attention to use new grammar forms correctly, so the focus was on grammar not the reading comprehension. In these lessons (MI based lessons), the teacher did not often correct our grammatical mistakes, and she asked us to try to explain whatever we understood. Therefore, it was better to be able to talk about a text. In addition, while reading we could make use of pictures and some photos to help us for understanding.

S10 (9th grade): In previous lessons, we were trying to translate the texts. In these lessons (MI-based lessons), we did not try to translate. We tried to get the overall meaning and tried to relate the text to ourselves, make comparisons. The teacher helped us to see the organization of the texts and when we understood its organization and its overall meaning, we could pay attention to details and find answers to our questions.

S5 (6th grade): I like reading in English. But when the texts are long and when they are complex I cannot understand them very well. In the lessons of the recent weeks, the texts were more understandable, and involved interesting content, they were not very complex because we learned most of the words in the texts in previous activities.

S6 (6th grade): I like English very much but sometimes the reading texts are very long, and I have difficulty in understanding them when there are a lot of unknown words. In these lessons (MI-based lessons), the teacher taught us

words before we read the texts so we could understand the texts, in addition there were some pictures near the texts and those pictures also helped us to understand the text and answer the questions about the reading texts.

S8 (6th grade): The teacher showed us how we should read a text. She said that we can make use of pictures near the texts to get the overall meaning, then when we understand the text in general sense it became easier to go into details.

The statements of the students point out that the reading tasks are designed in such a way that the students' level of readiness, their prior knowledge and their interests are taken into consideration in MI-based classes. One of the ways to increase students' reading comprehension can be said to motivate the students to read, and this can be accomplished through providing students with content that draws their attention to the texts. As students become engaged in the text, their comprehension can be expected to increase. In addition, providing students with texts that relate to their previous learning experiences can also have positive effects on their reading comprehension (Akarsu, 2014). When the information in the texts are aligned with students' capacities and interests, and when the tasks related to reading texts are matched with students' learning profile, then students' level of comprehension can be expected to increase (Tomlinson, 2001). As activities and tasks are organized in the ways that students learn best, learning can take place more effectively (Tomlinson & Eidson, 2003). It can be also concluded that use of some additional materials such as pictures, photos or music contributed to students' motivation to read the text and to become engaged in the process of meaning making. When students are motivated and feel the need to make meaning from the text then it can be expected that their level of comprehension increases (McMahon, Rose, & Parks, 2004). Therefore, giving opportunities to students to make use of reading strategies based on their multiple intelligences can enable them to make meaning from the texts in a more comprehensive way (Burman & Evans, 2003; Buschick, Shipton, Winner, & Wise, 2007; Reidel, Tomaszewski, Weaver, 2003; Sabet & Kiaee, 2016).

4.3.8. Students' accounts about their writing experiences through MI-based versus traditional instruction

The researcher also sought for students' experiences about the writing processes in the lessons. What they understand from the term of "writing" seems to change after the application process. Some sample statements are as following:

S1(9th grade): In our previous lessons, we did writing to write answers for the comprehension questions and for the fill-in-the-gaps exercises. In the lessons of the past two weeks, besides writing during exercises, we devoted a specific time for writing a short paragraph, for writing a dialogue with our peers. For example, we wrote a diary for a week as well. In previous lessons, we were writing to practice the new rules of grammar; in these lessons (MI-based lessons) we tried to explain something.

S7 (9th grade): In previous lessons, we were writing sentences to give examples for a rule, and during exercises such as fill-in-the-gaps. We were often using the same words. We often used the words such as "play, go, eat, drink, and watch". However, in the lessons of the past two weeks, we were writing for more different purposes. For example, we wrote a diary and compared our day with our friend's day. As we tried to explain something, we had to use new words, different words. These tasks were sometimes difficult and demanding, but as they forced us to use new words, we could learn new words easily and also learned making sentences.

S9 (9th grade): When writing, sometimes it is difficult to remember what to write. As the teacher often provided us with some pictures and tips during these recent lessons, writing became easier for me.

S5 (6th grade): In previous lessons, we wrote the things on the blackboard in our notebooks and we wrote vocabulary items in our notebooks. In these recent lessons, we wrote for different purposes. For example we wrote about our pets, we wrote sentences about our friends.

S9 (6th grade): In previous lessons, we often wrote the examples on the blackboard in our notebooks and we wrote new words five times, ten times in our notebooks. In these lessons (MI based lessons) teacher wanted us to write different things. For example we completed other half of the sentences, we wrote about animals.

S10: Writing exercises were more colorful in these recent lessons. The teacher gave us pictures and we wrote sentences about those pictures. She also gave clues so that writing was easier. In addition, we wrote different things, for example we wrote a song, we wrote a short role-play and played it in front of our peers. They were very enjoyable.

The statements of the students suggest that in traditional classes, the writing was limited to writing some sentences or filling in the gaps for the exercises in the books or worksheets. The writing process involved writing similar sentences repeatedly. They did not involve the production of a new thing. On the other hand, in MI based classes, the students' basic aim for writing usually had a purpose; for instance they tried to write an English diary, they tried to make up a story or they tried to make up a dialog to role play it. All such tasks had a purpose; therefore, the students could have the chance of writing for a purpose within a context. Thus, the contextual use of vocabulary items and the new grammar forms enabled them to learn both vocabulary items and grammar forms easily and also helped them to write in an organized way (Grabe & Kaplan, 1996).

4.4. Findings from Interview Data Collected from Teachers

After the implementations of the instructional methods, the teachers involved in the study were also interviewed about their opinions in terms of the implementation of MI based activities and traditional method. Teachers of both the 9th graders and the 6th graders were interviewed. Themes that came out after the coding of the teachers' responses can be presented as following:

4.4.1. Effects of MI based activities on students' attitudes towards lesson

The first thing that both of the teachers commented on was that they observed that their students' interest and motivation towards the lesson increased very much. The teacher of the 9th graders stated:

T1 (9th graders' teacher): It was so obvious that the students became more interested and motivated to learn. Although they were hesitant to participate in the activities at the beginning, then they became very excited and willing to participate in the activities.

The teacher of the 6th graders also said similar things:

T2 (6th graders' teacher): I could see the excitement and the willingness of the students in their eyes. Most of them like English actually; it seems to be a different lesson for them. However, involving such different activities increased their enthusiasm for the lesson. As students were more willing, they became more active in the lessons. They tried to take part in the activities and they asked questions. They worked cooperatively in group and pair works and tried to present their works in front of the classroom.

The teachers believed that the more they became active, the better they learned. Teachers emphasized that positive attitudes towards lesson influenced their learning positively. In these respects, the teachers' statements are as following:

T1 (9th graders' teacher). When the students are bored, they do not pay attention to whatever you say. If they do not have any interest in the lesson, they do not learn even if you repeat the same thing ten times. However, if they are interested in the lesson, and expect what will come next enthusiastically, they take active roles in learning process and they learn easily.

T2 (6th graders' teacher): Different activities, plays, visuals were interesting for the students. They viewed learning as if it was a game; therefore, they became willing to participate in the lessons. As their willingness increased, it

was obvious that they learned better. In addition, different activities made learners' perceptions more open, so they could learn more easily. I noticed that some of my students who were not so interested in the lesson became more enthusiastic about participating in the activities and asking questions. Involvement of different activities and providing students with opportunities to become active in learning process and to contribute to their peers' learning affected their attitudes towards English positively besides increasing their achievement in the lesson.

The observations of the researcher in the class hours yielded data in the same lines. The researcher could also observe the increase in the students' motivation and interest in the lesson, they were really excited about English lesson before the teacher entered the classroom and sometimes they even did not want to have a break. At breaks, they continued to look at the pictures, talked about them and sometimes asked the teacher to turn on the English video or the song of the day at break before she left the classroom. Different activities enabled students to perceive the English lessons from different windows, which made them more motivated, interested and enthusiastic towards the lesson as stated by Armstrong (2000).

4.4.2. Effects of MI based activities on teachers' attitudes

Teachers also touched upon their own feelings during the instructional applications. Examples from their statements are as follows:

T1 (9th graders' teacher): I was content to see that the students were paying attention to the lesson. In lessons in which I mostly lectured, I sometimes felt as if I was talking on my own, students were looking bored and they were seemingly listening to me although they were not. In addition, when you notice that students are enjoying the lesson and learning things that you are trying to teach, teaching becomes the most enjoyable job of the world.

T2 (6th graders' teacher): I sometimes felt frustrated when I noticed that students did not learn a very small thing that I tried to teach for one hour. This happens when students seem bored and reluctant to listen to you and to do the

exercises. When we started to incorporate different activities in the lessons, the students became more active and more willing to learn and they learn, too. When you have willing students and when you see that they are learning, you become very happy and satisfied and become filled with a desire to teach.

It can be concluded that when students become more motivated and active in the lesson, their achievement increases and this increase in students' motivation and achievement makes teachers feel more satisfied and happy during the process of teaching and learning.

4.4.3. Challenges in implementing MI based activities

Teachers stated that the implementation of MI based activities obviously increased students' motivation and success in the lesson. However, they touched upon certain difficulties in implementing MI-based activities all along the academic year. First of all, they stated that there was a curriculum that they had to follow and they had to cover all the subjects in that curriculum. Application of MI based activities requires more time in the classroom and it might be impossible to cover the entire curriculum. The teachers pointed out:

T1 (9th graders' teacher): Although MI based activities were fun to apply and they increased not only students' but also my own enthusiasm for the lesson, they required a lot of time. Therefore, I may not be able to finish all the subjects in curriculum.

T2 (6th graders' teacher): The curriculum is very loaded and we have to cover the subjects in accordance with the annual plans prepared according to the curriculum. Allocating time for MI based activities may leave us behind the curriculum.

The teachers also pointed out the fact that they had to teach English at different levels. For example, the 9th grade students' teacher was also instructing the 10th, 11th and 12th grade students; and the 6th grade students' teacher was also instructing 7th and 8th grade students. Therefore, they stated that they had to get prepared for all these

different levels at which they taught different subjects, which would be time consuming even in the process of preparation. The teachers also suggested that if the subjects in the curriculum were fewer and if they had to teach only one or two different grades, their preparation for the MI based instruction would be easier and its application would be more effective.

Another factor that caused some problems during the application of MI based activities was the fact that the students were exposed to such different activities for the first time during their educational life. Therefore, at the beginning, there were some problems during the implementation of MI-based activities as stated by the teachers:

T1 (9th graders' teacher): Students are accustomed to being instructed through traditional method, that is lecturing and taking notes, answering certain types of questions such as multiple choice, fill-in-the-gaps and so on. For the first time, perhaps throughout their educational life, they were exposed to such different activities proposed by MI theory. Of course, sometimes, we sing songs, sometimes I use pictures but this is not done consistently to tell the truth. Therefore, organizing students and also making them aware of the ultimate aim of the activities was demanding. However, I believe, as they got accustomed to the process, it became easier to organize them. For example putting them into groups and making them view the activities not only as games but also as ways to learn something became easier after a couple of lessons.

T2 (6th graders' teacher): At first students viewed the activities as if they were games, they seemed not to take the lesson seriously. Then, in the following lessons, they noticed that the activities were actually different ways to learn. I could notice that they saw all these activities as a part of learning. In addition, as students were not used to working in pairs or in groups; sometimes it was difficult to make up groups. Some wanted to work in another group; some wanted to work in pair with another friend. Later on, it became easier, however, as they got used to the application of MI-based activities.

As stated by the teachers, the process of implementing MI activities is not so easy, particularly when the students are not used to be exposed to such activities. Research studies about the application of MI-based activities offered challenges for the

teachers in the process of development and application of instructional designs (Hickey, 2004; Özdener & Özçoban, 2004; Rettig, 2005; Snyder, 2000). However, as time goes on and as teacher tries to make the students aware of the objectives of the activities, then the students start to understand that they are not playing games, they are actually learning. During observations, the researcher also noticed the difficulties in organizing the students. For example, when the students were asked to form groups, there was a great mess in the classroom. Afterwards, the teacher directed the students about how to form groups; she determined the pairs and the mess were overcome. In the following lessons, the students started to form groups in a couple of seconds. In addition, when the students were shown some comics, they tended to laugh, they tended to make comments irrelevant to lesson, tried to make their friends laugh drawing their attention to a funny side of a picture. All these tendencies would have been barriers to learning if they had not been overcome. The teachers were prepared to be faced with such reactions from the students as they worked with the researcher about the process of implementation before the implementation process started; some possible problems and solutions to these problems were discussed before the lessons. During the process of implementation of MI based activities, the teachers did not criticize the students for their intervening behaviors; instead, they reminded them of the fact that they were in the process of learning and they would be responsible for their own learning, and all these activities were actually not only for fun, instead they were prepared for learning while having fun. Following a couple of classes, it was so clear that the students were taking the process of learning through MI based activities into seriously besides enjoying the lesson. When they noticed that they were involved in the process of learning actively and they were required to achieve certain tasks in the lessons and when they became aware of the fact that they “could” learn and arrive at certain goals, they started to have more interest towards lesson and became more motivated; this led the teacher to conduct the activities in a more friendly and smooth fashion.

Another problematic factor was the number of the students in the classroom. There were 35 students in the 9th grade classroom and 30 students in the 6th grade classroom. Therefore, sometimes it became difficult to form groups and allocate time for each group or the pair to demonstrate their work to their friends. The researcher also observed that the number of the students could cause problems, sometimes there was a

lot of noise in the classroom and some of the students complained about that noise. Sometimes it was difficult for the teachers to answer all the questions from different groups and students were sometimes impatient about demonstrating their work. Therefore, sometimes the activities took longer time than planned and the teacher preferred to skip some of the activities. Therefore, an important implication of the study is that MI based instruction needs to be applied in a wider spectrum and conditions in the school and the classes had better be prepared in accordance with the basic premises of MI theory (Christison, 2005; Gardner, 2006).

In conclusion, the accounts of students and teachers present that MI-based activities enabled them to be involved in the target forms and content through many ways, which made it easier for them to comprehend and retain the new knowledge. In addition, MI-based activities were acknowledged to be stimulating factors in increasing not only students' but also teachers' motivation, interest and enthusiasm towards the lessons. The fact that MI-based activities provide learners and teachers with various ways of learning and teaching and that they lead to an increased positive attitude towards the lesson can be considered to be the basic factors that lead to an increase in students' achievement scores. Although, the implementation process of MI-based activities can involve certain challenges as stated by the teachers, they are evaluated positively in terms of leading to higher achievement and more positive attitudes.

4.5. Reconsideration of Quantitative Findings within the Scope of Qualitative Findings

The statistical results related to the data about the first four research questions present that the students in the MI based classes outperformed the ones in the group instructed through traditional method in grammar and vocabulary learning and in reading comprehension and writing development not only at the 6th grade levels but also at the 9th grade levels. The basic reasons for these findings can be found in the statements of the students. Use of a variety of teaching and learning strategies were welcomed by almost all the students interviewed. Application of MI theory in educational settings can take place in a variety of forms as MI theory emphasizes the rich diversity of ways in which people show their learning preferences (Christison, 2005). As each individual is seen as unique and possessing a unique combination of

intelligences (Armstrong, 2000b; Gardner, 1983, 1999), activities used in the classrooms should be able to address this uniqueness of individuals. Gregory and Chapman (2002, p. 29) propose that “Teachers in classrooms consider the notion that when we want to *catch fish* we bait the hook with what the fish like, not the fisherman likes.” Therefore, contrary to the traditional approach which involves a great amount of teacher talk, instruction and controlled practice and memorization activities, MI based modal promotes the use of a variety of different learning activities and strategies in order to reach all the students and to address their preferred learning ways. Hoerr (2000, 2016) suggests that lessons should be presented in a wide variety of ways such as using music, cooperative activities, art activities, and role playing, multimedia, field trips, and inner reflection as students have different ways of learning. As diverse activities mean novelty for the students and the brain is stimulated by novelty, inclusion of different activities in lessons is expected to stimulate the students’ brain, which can lead to an increase in students’ interest and motivation towards the lessons. As students become more interested and motivated for the lessons, they can be expected to become more successful (Mettetal et al. 1997).

In traditional way of instruction, teachers prefer presenting subject matters to the students directly and mostly by using linguistic or mathematical methods and students are expected to act as passive receivers of knowledge no matter how different types of intelligences they have (Lawrence, 1998, Stanford, 2003); students are characterized as clever or not clever based on their understanding the material presented through only linguistic and mathematical ways (Berman, 2002; Gregory & Chapman, 2002). However, MI theory implies that all students are actually clever; they are only different from each other and have different types of intelligences. As the areas in which they are strong vary, teachers need to incorporate different instructional strategies in their lessons (Bailey, 1999; Hoerr, 2000; Nolen, 2003). MI based instructional modals suggest making use of diverse activities addressing all types of different intelligences so that students can find opportunities in order to explore their full range of intellectual capacities and achieve success (Berman, 2002; Hickey, 2004; Mbuva, 2003).

MI model gives primacy to individual differences and instead of forcing students to learn in a uniform way, it emphasizes individual talents and interests (Berman, 2002). As MI theory acknowledges the existence of at least eight different intelligences, it

suggests a framework in which teachers can handle any content, theme and instructional objectives and can address students' different intelligences and the areas in which they are strong. MI theory resists ignoring the individual differences and making students believe that there are only one or two ways of learning, and if they cannot learn through these ways then the problem is with them not with the instructional methods (Armstrong, 2003; Hoerr, 2016). Instead of neglecting students who are not linguistically or mathematically talented (Berman, 2002), MI approach takes the students' different interests and talents into consideration, students are given options for learning and the responsibility for learning is shared with students (Hoerr, 2000).

Traditional way of instruction views all learners as similar and considers that whatever is taught will be learned by all of the students in the same way. However, MI-based modal suggests that it is possible to teach something to each individual as long as they are instructed through their own ways of learning and understanding (Barrington, 2004; Hatch, 1997; Siegel, & Shaughnessy, 1994). Traditional way of instruction promotes memorization of information and students are often tested to see whether they recall the memorized information or not. Presenting the information directly and requiring the students to memorize this information without questioning is an easy way of instruction; however, it is often witnessed that students have problems in applying their memorized information in real life settings. Therefore, it is questionable whether learning takes place in real sense and whether students are ready to use what they have learned for their future life (Mansilla & Gardner, 2008). Instead of labeling students as being good at (or not good at) science, math or language, and demoralizing them, MI theory suggests that if students are instructed through their 'own' ways of learning and if they are provided with a rich environment in which they can explore their strengths, students can succeed and they may become more motivated for life-long learning (Gardner, 2006). Trying to teach each subject through same ways to each individual is often a waste of time and effort as each individual is unique and has his/her unique learning patterns; therefore, instruction should be personalized and each individual should be given chance to find something addressing his/her tendencies (Hoerr, 2003; Mettetal et al., 1997; Stanford, 2003). This can be achieved through preparing a rich environment in which students have opportunities to make use of their strengths and through varying teaching methods and enabling them to work in an enjoyable

atmosphere (Christison, 2005; Lightbown & Spada, 2006). As students are instructed through their own ways of learning, they are expected to achieve and also apply whatever they learn in their real life circumstances. The finding that involvement of multiple intelligences activities in lessons leads to improvement in students' achievement is also reported in previous studies, as well (e.g. Kornhaber, 2004; McMahon et al., 2004). In order to improve students' motivation and their academic performance, multiple intelligences strategies can be adopted in lessons (Armstrong, 2002; Campbell, 2004; Diaz-Lefebvre, 2006, Gredler, 2005). The statements of the students interviewed support the implications of MI theory for language learning. Almost all of the students interviewed were content with the great diversity of materials and activities they were involved in and they reported to become more motivated and interested towards the lessons due to materials and activities which were very interesting for them. In addition, the fact that the students' answers are so varied regarding the question that tried to understand which activities they liked the most also puts forward that students have different inclinations and they prefer being taught in the ways that are addressing their interests. While some of the students stated that they liked slides and flashcards very much, some said that they liked listening to and singing songs and some of them stated that they liked moving around and sharing knowledge, all of which point to the variety in students' ways of learning and their personal preferences for learning.

Considering all the statements during the interviews and the findings from the questionnaires and the statistical findings about the achievement tests on grammar, vocabulary, reading and writing and considering the main implications of the MI theory for language teaching and learning, the reasons for increased achievement of the experimental group instructed through MI-based activities in comparison to the control group instructed through traditional method become obvious. The students were accepted as individuals in MI classes and they were instructed through a large variety of activities in which each student was expected to find something addressing his/her unique way of learning. Each student felt being addressed by certain activities and this process led to an increase in their interest and motivation towards the lesson, which brings success.

This section illustrated the quantitative and qualitative research findings and discussed the related findings and the rationale behind them within the framework of theoretical basis and research questions. The following chapter will summarize the overall findings of the current study and discuss the significant points about the implementation of MI-based activities in a content based context versus the traditional method by proposing theoretical and practical implications. In addition, the limitations of the study and suggestions for further research will be also outlined.



CHAPTER FIVE

5. CONCLUSION

This chapter is allocated for synthesizing the research findings derived from the application of quantitative and qualitative data collection instruments. Based on these findings and the related literature, overall implications of the present study will be addressed. Then, limitations of the current study and suggestions for further research studies will be presented.

5.1. Overview of Findings

The study was built upon two dimensions basically: while one dimension queried the effects of MI-based activities in a content-based framework on grammar achievement, vocabulary learning, reading comprehension and writing development of the 6th and the 9th grade students in comparison to traditional method by dwelling upon quantitative data collection instruments. The other dimension was directed towards exploring the opinions, feelings and attitudes of participants about two instructional methods by collecting both quantitative and qualitative data. Therefore a mixed-method design was administered to reach both quantitative and qualitative findings in order to make explorations related to the research questions from a multi-dimensional perspective.

The findings obtained from the application of achievement tests on grammar, vocabulary, reading comprehension and writing indicated that both the experimental group and the control group at the 6th grade level were at the same level in terms of their knowledge of the target units at the beginning of the study. The case was the same for the 9th grade participants; both the experimental group and the control group at the 9th grade were found to have similar means on all tests before the administration of instructional methods. There found to be no significant difference in their mean scores they got in pretests. After the implementation process, the experimental group instructed through MI-based activities in a content-based context outperformed the control group

instructed through traditional method on all measurements at the 6th grade level. There was a significant difference between the mean scores of experimental group and the control group in all tests applied as posttests. At the 9th grade level, the experimental group also had higher means than the control group in all measurements given as posttests. These findings can yield that MI-based activities applied in a content-based context were more effective than the traditional method in terms of improving students' scores in grammar, vocabulary, reading and writing tests.

The other focus of the research questions was to explore students' attitudes towards learning English before and after the application of the instructional methods (i.e. MI-based activities in a content based frame versus traditional method). For that end, the students were given an attitude questionnaire before and after they were instructed during the research process. At the beginning, both the experimental and the control groups were similar in terms of their attitudes towards learning English at the 6th and 9th grade levels. However, after the implementation of different instructional methods, the experimental group reflected that they had developed positive attitudes towards English lessons at the 6th grade level. In the 9th grade level, the experimental group was found to have more positive attitudes towards English lessons than the control group after they were instructed through MI-based activities in a content-based context.

In order to get a more in-depth insight about students' attitudes, feelings and opinions in terms of the instructional processes in English lessons during the research study and before the research study, the researcher conducted interviews with randomly selected ten students from experimental groups at the 6th and the 9th grade levels. The participants for the interview were selected from the experimental groups as they could have chance of making comparison between MI-based method and traditional method being exposed to both of them before and during the research study. The interviews were composed of open-ended questions. All of the students interviewed expressed positive attitudes about MI-based instruction, and stated that they would prefer to be instructed through MI-based method in the following English classes. Being exposed to a wide range of materials other than textbooks, being involved in a variety of activities rather than just sitting at the desks, having chance to produce new products, being able to cooperate with their friends, not being obliged to memorize rules of structures and

long lists of vocabulary items are among the properties stated by the students as the basic reasons for their positive attitudes towards English lessons.

Although there were only two teachers – the 6th grade students' teacher and the 9th grade students' teacher– the researcher preferred to conduct interviews with these teachers as well in order to have an understanding of teachers' views about the process of implementing MI-based versus traditional activities. The interview findings revealed that both of the teachers had positive conceptions of MI-based method although that had certain reservations about its implementation as described in the findings section and as will be touched upon briefly in the following paragraphs.

5.2. Possible Rationale behind Research Findings

This study aims at not providing just a descriptive picture of a current case, but it also tries to investigate the possible rationale behind the quantitative results referring to qualitative findings of the study. Such an investigation can contribute to making implications and further suggestions for foreign language teaching.

From the statements of students and teachers, it can be concluded that use of a variety of techniques and materials lies at the core of the effectiveness of MI-based instruction in increasing students' achievement and improving their attitudes towards lesson. As each individual is seen as unique and possessing a unique combination of intelligences (Armstrong, 2000b; Gardner, 1983, 1999), activities used in the classrooms are designed in a diversified way so as to address the uniqueness of each individual. Contrary to the traditional approach which involves a great amount of teacher talk, lecturing and controlled practice and memorization activities, MI based modal promotes the use of a variety of different learning activities and strategies in order to reach all the students and address their preferred learning ways (Gregory and Chapman, 2002). Hoerr (2000) suggests that lessons conducted in a wide variety of ways such as using music, cooperative activities, art activities, role playing, multimedia, field trips, inner reflection can appeal to learners and grasp their attention towards lessons, therefore contributing to their success rate.

MI theory acknowledges the existence of at least eight different intelligences, and suggests a framework in which teachers can handle any content, theme and

instructional objectives and address students' different intelligences and the areas in which they are strong. MI theory resists ignoring the individual differences and providing students with a uniform instruction based on linguistic or logical-mathematical viewpoints (Armstrong, 2000b, 1999). As the participants of the current study have acknowledged, the use of one type of instruction leads to boredom and lack of motivation and interest towards lesson, which effects students' success negatively. However, approaching an issue from diverse perspectives can be a stimulating factor for students increasing their enthusiasm and motivation towards lessons (Diaz-Lefebvre, 2006; Gredler, 2005). Use of various activities and enabling students to employ various ways and strategies that help them to improve their language learning can provide the learners with a wide spectrum of learning opportunities; as a result, each learner can find something addressing his/her personal strengths, which is an important factor in increasing students' motivation and improving positive attitudes towards lesson (Barrington, 2004).

Besides increasing students' motivation, instruction conducted in diverse ways is also acknowledged to be enjoyable by the students. Students stated that in their previous lessons (that were conducted through traditional method) they always did the same things, they were given the rules of target structure, they tried to give examples using that target structure and they were expected to memorize a lot of words. This case was even identified with math lessons by some of the students. They stated that such type of instruction became boring for them and as they did not enjoy the lesson they forgot whatever they learned or even they did not learn anything at all. However, use of different activities was stated to be making their lessons more colorful and more enjoyable, and as they enjoyed the lesson, it became easier for them to learn and recall later as stated by Gregory and Chapman (2002). Teachers' main emphasis about the implementation of MI based activities and traditional approach was also on the fact that traditional approach made learners bored and reduced their interest and motivation for the lesson, which also decreased their own motivation and enthusiasm for teaching. MI-based activities were more fun to apply and there was a noticeable increase in students' desire to participate in lessons, which could lead to increase in students' success in learning the components of target units.

Another reason underlying the increased success rate of the experimental group can be claimed to be the emphasis put by the MI theory on deep understanding. Traditional way of instruction promotes memorization of information and students are often tested to see whether they recall the memorized information or not. Presenting the information directly and requiring the students to memorize this information without questioning is an easy way of instruction; however, it is often witnessed that students have problems in applying their memorized information in real life settings. Therefore, it is questionable whether learning takes place in real sense and whether students are ready to use what they learn for their future life (Mansilla & Gardner, 2008). However, instead of carrying out a superficial instruction which provides students with information only seemingly, providing students with conditions in which they can learn in real sense can increase their achievement in English language learning. Such conditions involve instruction through their 'own' ways of learning in an environment rich in stimuli which enable learners to explore their strengths, and become more motivated for life-long learning (Gardner, 2006b). As students are involved in various activities appealing to their proclivities, they can be engaged in deep learning which enables them to apply whatever they learn in real life settings.

One of the issues about which students often complain is the fact that even if they think they learn something – a rule or some vocabulary items – they find that they easily forget it and cannot remember when they need to use it. The basic reason for this case can be proposed to be decontextualized learning (Flowerdew, 1993, Met, 1999). As students learn language as bits and pieces and out of context, it becomes difficult for them to make sense of it, and something that does not make sense is easily forgotten. Therefore, students need to be instructed within a context so that they can build relations between the pieces of knowledge within a meaningful context. Such a context can be designed through incorporation of content or themes into language classes. When the activities and materials are organized around a theme, it becomes easier for students to set up connections between whatever they learn, which stimulates their learning and recalling afterwards. MI-based activities conducted in a content-based context can be deemed to provide students with a framework so that they can place each piece of knowledge within that framework by establishing connections among them, which helps them to recall afterwards. For example, students stated that instead of memorizing

adjectives in isolation and in a list without any context, studying them as properties of animals through pictures made it easier for them to learn and remember later.

Assessment techniques applied in MI-based instruction can be presented as another reason for its effectiveness in increasing students' achievement in tests and in improving their attitudes towards English lessons (Lazear, 1998). MI-based instruction supports a process-based assessment, which involves a continuous observation of students' works. Students are required to do some small projects and prepare port-folios on which teachers give feedback so that students can see the points that they need to improve in their performances. If they are exposed to only a product-based assessment, then they will not have chances of seeing the gaps in their comprehension and they will not be able to develop themselves based on the feedback from their teachers and peers. As students are continuously assessed in MI-based instruction, they continuously have chance to improve their comprehension, which is reflected in ultimate assessment tasks (Gardner, 2006c).

To conclude, acknowledgement of individual differences of learners and trying to provide them with materials and activities that can appeal to their proclivities and reach as many students as possible instead of making them obliged to learn the same things through the same method no matter however different intelligence profiles they have seem to be the basic rationale lying under the effectiveness of MI-based model within the framework of the current study. Taking one step further, the following section will present implications of the study.

5.3. Implications

Considering both the quantitative and qualitative research findings and dwelling upon the theoretical framework, the present study presents the following implications for the field of foreign language teaching, particularly in Turkish context.

The results and the statements of the participants suggest that the present curricula for the primary education and secondary education need to be designed in a way that they take learner differences into account. A close investigation of the curriculum for primary education and the curriculum for the secondary education reveals that theoretically, the curriculum designers acknowledge that learner differences

are taken into consideration while designing the present curricula. It is also claimed that language materials are developed in accordance with the diversified learners' needs and interests. It is also encouraged that teachers need to vary their teaching techniques in line with different learner profiles through the use of technological devices and various techniques. Another emphasis is put on the thematic instruction which is suggested to provide a meaningful learning environment for students, which is a factor increasing students' achievement in English learning. As a last point, it is also suggested that teachers conduct authentic and process-oriented assessment in order to observe whether students are improving or not. All of these issues are explained in a detailed way in the curricula for both grade levels and the picture of an "ideal" foreign language learning environment is drawn. However, in practice the situation is not as presented in that ideal picture to a great extent. Instead, a traditional way of instruction is applied in foreign language classes. When the reasons for still applying traditional method despite all the changes done in the curriculum are investigated, the first issue that appears is the fact that curriculum content is actually very loaded. The teachers state that they try to cover all the content in the curriculum, and as there are many topics and content to be covered, it becomes difficult to conduct various activities on that topic and teach it through making use of diversified techniques and materials. The easiest way of instructing such a great amount of topics is traditional way of instruction. Therefore, curriculum developers and teachers need to decide upon the topics that are crucial to be taught and the number of topics should be decreased. Educational goals need to be determined accordingly so that teachers and students can have more time to allocate for each topic and conduct various activities for the same topic. This case can enable teachers to reach more students so that students can find something appealing to them among so many different activities and materials.

Within the scope of determining educational goals, language teaching methods should also be designed in a way that language instruction goes beyond memorization of certain rules and vocabulary items as an instruction based on memorization leads to scholastic learners who seem to master what school requires them to do actually do not understand what is – seemingly – taught as they cannot make use of that knowledge in new situations in real life. The scholastic learners never try to apply what they learn to another context except where s/he is taught to do. They tend to give prescribed answers

found in their books, and often they even do not ask any questions. Therefore, the present study also implies that when developing curricula, decisions about what to teach and how to teach should be taken very cautiously. Curriculum developers may choose to involve rich concepts that can be approached in different ways so that students can have more chance to understand what is covered.

The findings of the present study suggest that instead of bringing up scholastic learners, schools can aim at ensuring deep understanding so that learners can make use of their knowledge when appropriate and do not make use of that knowledge when it is not appropriate. In order to achieve deep understanding, language instruction needs to be done in contextualized settings. Students can be provided with authentic instructional materials and they can be provided with activities that are similar to real life circumstances during which students need to achieve a purpose. In traditional classrooms, the basic requirement for the students is to combine various words in accordance with the target structure rules out of context; the ultimate purpose is just to make a sentence no matter whether it makes a sense or not within the classroom context. However, MI based instruction encourages the students to be involved in meaningful tasks and pursue real purposes such as combining all parts of story, composing a song for a competition, finishing a puzzle or preparing an exhibition, organizing a field trip. When students have a purpose in their minds, then learning becomes more meaningful and it can be expected that what they learn can be transferred to real life circumstances as well.

Another implication of the current study can be about the designing of language teaching materials. Being among the basic materials in language classes, the textbooks should be designed in a way that they address unique learning patterns of language learners. Trying to teach each subject matter through the same ways to each individual is often a waste of time and effort as each individual is unique and has his/her own unique ways of learning (Hoerr, 2003; Mettetal et al., 1997). Providing students with a rich learning environment involving a wide range of materials and various tasks and activities can address their unique ways of learning. When the textbooks used in the classrooms are reviewed, it is possible to see some efforts to design textbooks in an authentic way, such as involvement of real photos, mentioning about some popular singers or actors. However, authenticity cannot be limited with the use of photos;

instead, textbooks need to involve materials and activities that are similar or the same with real life cases. In addition, although communicative competence is stressed in curriculum program, the basic emphasis of textbooks remains on grammar structures and acquisition of vocabulary items. Most of the exercises are based on grammar rules and they are given in isolation. However, the authenticity and diversification are of crucial importance in designing language materials because those materials often provide the only opportunity for language learners to be exposed to target language usage in contexts where English is taught as a foreign language (McConachy & Hata, 2013). Besides involving authentic and diversified content, the textbooks can be designed in a way that they encourage the teacher and students to find and bring different materials such as realia that they find in their houses, materials that they collect from nature, newspapers, books, pictures, and even toys. It could be observed during the research study even a small box the teacher put on the desk was enough to attract students' attention. Therefore, lessons should be designed in way that quite a number of different materials can be involved in classrooms and incorporated in learning activities instead of dwelling upon one textbook and papers filled with structured exercises.

In addition to having diversified materials in language classes, teachers also need to diversify their teaching techniques acknowledging that the only way to teach cannot be through linguistic and logical-mathematical ways. Instead, they need to pay attention to other types of intelligences such as visual, bodily-kinesthetic, interpersonal, intrapersonal, musical, and naturalist. Considering that the students may be strong in those other intelligences as well, the teachers had better prepare activities that appeal to students with different profiles of intelligences. Involvement of different activities addressing different types of intelligences can grasp the students' attention and can increase their motivation towards the lesson. As students' motivation and interest increase, more effective instruction can be expected.

As the statements of participants suggest, language learners are different from each other and have different types of intelligences. Therefore, teachers need to incorporate different instructional strategies in their lessons (Bailey, 1999; Hoerr, 2000; Nolen, 2003). MI based instructional modals suggest making use of diverse activities addressing all types of different intelligences so that students can find opportunities in

order to explore their full range of intellectual capacities and achieve success (Berman, 2002; Hickey, 2004; Mbuva, 2003). Instead of neglecting students who are not linguistically or mathematically talented (Berman, 2002), MI approach suggests that the students' different interests and talents need to be taken into consideration, students should be given options for learning, in addition, the responsibility for learning needs to be shared with students (Hoerr, 2000). The basic role of the teacher should be to prepare a rich environment which provides opportunities for all students who have a unique combination of intelligences so that each student can find an activity addressing his/her own way of learning (Stanford, 2003). Therefore, students can feel that they are active in the classroom and they take part in the process of teaching and learning (Moran, Kornhaber & Gardner, 2006). If they are continuously given passive roles and behaved as if they were passive recipients of knowledge, then it can be inevitable that they become bored, lose their interest in the lesson and develop negative attitudes and feelings towards the lessons. On the contrary, the present study suggests that MI based activities can be implemented to enable the students to be active producers of knowledge, which increases their motivation for the lesson and contributes to their attitudes towards lesson positively.

Involvement of diversified instructional techniques and materials can be expected to lead to the fact that students can have crystallizing experiences as suggested by Walters & Gardner (1986). As crystallizing experiences are an individual's reactions to a phenomenon related to a domain, this reaction takes place in an immediate way as if turning on a light in one's mind and leads to an immediate and long-term change in the individual's viewpoints about that domain and how s/he perceives himself/herself in relation with that domain. These changes in the individual's viewpoints lead to important changes in his/her life, and that person may even become a very distinctive representative of that particular domain in which s/he may have only a moderate interest beforehand. In this respect, it can be suggested that learners need to be exposed to a variety of different experiences so that these experiences may become crystallizing experiences for them and they may have a chance to discover themselves and their potentials. Within this framework, applying MI theory in classrooms can enable the students to become motivated for exploring a domain and even to have crystallizing experiences as crystallizing experiences occur in circumstances which combine an

inborn talent, self-teaching and an appropriate exposure to a set of materials (Armstrong, 2000).

Another important implication for the present study can be about the assessment of learning. Instead of applying assessment techniques such as paper and pencil tests that claim to measure students' knowledge through short answer questions posed often in linguistic or logical/mathematical ways, performance-based exams which require learners "to demonstrate" what they are required to be able to do through various ways such as "projects, exhibitions, portfolios, and process folios" can be applied (Gardner, 2006c, p. 143). Performance-based and process-based assessments require teachers to observe their students continuously in order to see whether they understand (Lazear, 1998). Therefore, any lacking points in the process of learning can be compensated in time. A continuous observation involves asking students to do some work about what is taught so that teacher can observe students' understanding in real sense. In addition, students can be asked to reflect on their learning and write a couple of sentences about what they learn at the end of the day. Encouraging students to prepare portfolios can enable the students and the teachers to see whether they are learning or improving.

As a last but not least issue, it should be also stated that it is quite important that language teachers are encouraged to be informed about current developments and new trends in language teaching all around the world as technology develops and new techniques are devised to be incorporated in teaching environments. This can be done through organizing in-service trainings, seminars or conferences. In addition, teachers can be provided with opportunities to come together and discuss their implementations in the classrooms and try to find solutions to the problems they are faced with. Within this framework, when the teachers are first exposed with the ideas suggested by MI theory, their first reaction can be to say that it is impossible to apply this method in their schools. However, not only the teachers but also the administrators and even the parents can be informed about current applications of MI-based instructional techniques so that they can be encouraged to try it before resisting to it. Therefore, the findings and the implications of the current study can be viewed as an impetus for implementing MI-based activities in a content-based framework for reaching all learners with diverse profiles in the classroom and achieving a more effective instruction besides improving students' attitudes towards English lessons.

5.4. Limitations of the study and suggestions for further research

The study employed a mixed-method research design in order to prevent any limitations due to research design. In order to make multi-dimensional inferences, both quantitative and qualitative data were collected.

One possible limitation of the current study can stem from the fact that the study was carried out involving only two schools, which can limit the generalizability of the study. However, the nature of most of the research studies involving the application of a technique or a method in classrooms makes it obligatory to involve a limited number of participants due to reliability and validity issues (Creswell, 2002). Involvement of more than two schools and applying the same study in different regions and different schools with different circumstances and then trying to arrive at results encompassing all of these differentiated contexts and participants would lead to problems about reliability and validity of the conclusions in terms of the effects of instructional methods. The basic reason for such a case is the fact that not only the instructional methods but also many other variables such as physical conditions of schools, teacher profiles, textbooks and learner profiles could have influence on the outcome. If the study had involved different participants from different regions (which was actually impossible in practice), then their socio-demographic profiles could have possibly influenced their performances and perceptions. Therefore, the present study tried to involve groups of students for which all the conditions would be the same except for the instructional methods. It is possible to state that if the same study was conducted in another region of Turkey, then the results might be different. However, it is also possible that the study may produce the same results in other contexts, as well. Therefore, instead of generalizing from the findings of a single study, the present study can be replicated in other contexts and its findings can be compared with this study as it is always not possible to make a great progress with only one step, often numerous steps need to be taken to make a little progress in science.

Within the scope of the current study, the effects of MI-based activities in a content based setting on students' listening and speaking skills could have been also investigated. However, as the foreign language level of the participants was just beginner's level, the students could not speak English, their oral production was limited

to use of a couple of words and some classroom expressions, which was not enough to evaluate. In terms of listening skill, the case was similar. It was not so possible to evaluate their listening skills as they were not competent enough to demonstrate their understanding of a listening task. The evaluation of listening tasks often involves asking students to fill in some gaps depending on the text listened. However, as students made a lot of spelling mistakes in writing, it would be not so reliable to assess their listening skill based on their writing about the texts they listened. Therefore, the researcher decided not to involve speaking and listening skills within the scope of the current study due to the reliability concerns. However, it is also possible to explore the effects of MI-based instruction on listening and speaking skills of participants whose level of English language is enough to be evaluated in terms of listening and speaking.

The other limitation of the study can be the achievement tests applied for both experimental and control groups. Although experimental group was instructed through MI-based method, their assessment can be expected to be made through methods such as port-folios and projects. However, the tests implemented in that group were also in the form of multiple choice or fill-in-the-gaps as it was the case in traditional teaching. The researcher preferred to apply the tests in these forms for reliability and validity reasons. In addition, implementation of different tests in different formats to experimental and control groups could make it difficult to make a comparison between these two groups due the fact that test format and content can also have influence on the outcome scores of test takers. Therefore, another question would appear about whether the students' test scores were reflecting the effects of instructional methods or the effects of test format. Although the tests in the form of multiple choice or fill-in-the-gaps are not much in line with the basic premises of MI-based instruction, as students in both groups were accustomed to taking tests in these forms, the achievement tests applied as pretests and posttests were administered in these formats. Further research studies can be conducted in order to determine the effectiveness of the MI-based activities through the application of more process-based measurements, which may necessitate different research methods such as a case study instead of making a comparison with another group instructed and assessed through traditional ways.

Replication of the present study can be conducted in different educational settings such as primary schools and secondary schools in other provinces. In this way,

more comprehensive data can be collected and the analysis of the data can lead to more detailed understanding of the issue under research. As the amount of available data increase and encompass various research contexts, the generalization of the findings can also increase. This study can be acknowledged as a starting point in terms of exploring the effects of MI-based activities in a content-based context on various domains related to foreign language learning, such as grammar, vocabulary, reading comprehension, writing development and attitudes of students and teachers; therefore more research is needed to have a more in-depth understanding of the related phenomena and to find solutions for related challenges.



REFERENCES

- Adamson, P., Adamson, B., Anderson, L., Clausen-Grace, N., Eames, A., Einarson, C., Goff, J., Kelley, M. J., Olness, R. L., & Wooten, D. (2005). Higher-order thinking the multiple intelligences way. *School Library Journal*, 51, 78-78.
- Adıgüzel, O. C. & Özüdođru, F. (2013). Üniversitelerde ortak zorunlu yabancı dil I dersine yönelik bir akademik başarı testinin geliştirilmesi. *Trakya University Journal of Education*, 3 (2), 1-11.
- Airasian, P. W. & Russell, M. K. (2011). *Classroom assessment: Concepts and applications*. (7th edition). Canada: McGraw-Hill Education
- Akarsu, O. (2014). Reading achievement in foreign language. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 18 (3), 209-216.
- Alderson, J. C., Clapham, C., & Wall, D. (1995). *Language test construction and evaluation*. UK : Cambridge University Press.
- Alpar, R. (2016). *Spor sağlık ve eğitim bilimlerinden örneklerle uygulamayı istatistik ve geçerlik güvenirlik*. Ankara: Detay Yayıncılık.
- Alptekin, C., Erçetin, G., & Bayyurt, Y. (2007). The effectiveness of a theme-based syllabus for young L2 learners. *Journal of Multilingual and Multicultural Development*, 28, 1-17.
- Altunay, U. (2002). *Attitude scale towards English, exams, programme and physical conditions*. Unpublished scale. Dokuz Eylül University, İzmir, Turkey.
- Altunışık, R., Coşkun, R., Bayraktarođlu, S., & Yıldırım, E. (2012). *Sosyal bilimlerde araştırma yöntemleri*. Sakarya: Sakarya Yayıncılık.
- Armstrong, T. (1999). *7 Kinds of smart: Identifying and developing your own intelligences*. New York: Plume Books.
- Armstrong, T. (2000). *Multiple intelligences in the classroom*. (2nd edition). Alexandria, VA: ASCD
- Armstrong, T. (2000b). *In their own way: Discovering and encouraging your child's multiple intelligences*. New York: Penguin Putnam Inc.

- Armstrong, T. (2002). *You're smarter than you think: A kid's guide to multiple intelligences*. USA, Minneapolis: Free Spirit Publishing
- Armstrong, T. (2003). *The multiple intelligences of reading and writing*. USA: Association for Supervision and Curriculum Development.
- Armstrong, T. (2007). The curriculum superhighway. *Educational Leadership*, 64(8), 16-20.
- Arnold, J. & Fonseca, M. C. (2004). Multiple intelligence theory and foreign language learning: a brain-based perspective. *International Journal of English Studies*, 4(1), 119-136.
- Ayres, L. P. (1911). The Binet-Simon measuring scale for intelligence: Some criticisms and suggestions. *Psychology Clinique*, 5, 187-196.
- Bacha, N. (2001). Writing evaluation: what can analytic versus holistic essay scoring tell us? *System*, 29, 371-383
- Bailey, E. (1999). Casey hits home run in ESL classroom. *TESOL*, 8 (1), 37-43.
- Barrington, E. (2004). Teaching to student diversity in higher education: How multiple intelligence theory can help. *Teaching in Higher Education*, 9(4), 421-434. DOI:10.1080/1356251042000252363
- Bartholomew, D., Allerhand, M., Deary, I. (2013). Measuring mental capacity: Thomson's bonds model and Spearman's g-model compared. *Intelligence* 41(4), 222-233.
- Baş, G. (2010). İngilizce derslerinde çoklu zeka yaklaşımının öğrencilerin akademik başarılarına ve derse yönelik tutum düzeylerine katkıları. *E-journal of New World Sciences Academy*, 5(2), 411-430.
- Baş, G. (2014). Evaluation of multiple intelligences based instruction in English course from the views of students. *Kastamonu Journal of Education*, 22(1), 177-201.
- Bas, G., Beyhan, Ö. (2010). Effects of multiple intelligences supported project-based learning on students' achievement levels and attitudes towards English lesson. *International Electronic Journal of Elementary Education*, 2(3), 365-386.

- Berman, M. (2002). *A multiple intelligences road to an ELT classroom*. UK: Crown House Publishing Limited.
- Berry, J. W., & Bennett, J. A. (1992). Cree conceptions of cognitive competence. *International Journal of Psychology*, 27, 73-78.
- Black, T. R. (1999). *Doing quantitative research in the social sciences: An integrated approach to research design, measurement and statistics*. London: SAGE
- Blythe, T., & Gardner H. (1990). A school for all intelligences. *Educational Leadership*, 47(7), 33-37
- Boake, C. (2002). From the Binet–Simon to the Wechsler–Bellevue: Tracing the history of intelligence testing. *Journal of Clinical and Experimental Neuropsychology*, 24(3), 383-405.
- Boaler, J., Wiliam, D. & Brown, M. (2000). Students' experiences of ability grouping-disaffection, polarisation and the construction of failure. *British Educational Research Journal*, 26 (5), 631-648.
- Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods*. (5th. edition). Boston, MA: Pearson Education, Inc.
- Bozoğlan, B. (2004). *An application of writing in ELT depending on multiple intelligences theory*. Unpublished master's thesis, Selçuk University, Institute of Social Sciences, Konya.
- Branton, S. C. (2004). Using multiple intelligences assessment to promote teacher development and student achievement. *Teachers College Record*, 106(1), 147-162.
- Brinton, D. M., Snow, M. A., & Wesche, M. J. (1989). *Content-based second language instruction*. New York: Newbury House.
- Brody, N. (2000). History of theories and measurement of intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 16-33). Cambridge, NY: Cambridge University Press.

- Brookhart, S. M. (2004). Classroom assessment: Tensions and intersections in theory and practice. *Teachers College Record*, 106(3), 429-458.
- Broughton, G., Brumfit, C., & Pincas, A. (1994). *Teaching English as a foreign language*. USA: Routledge.
- Brown, D. (2007). *Principles of language learning and teaching*. White plains, NY: Pearson Education Inc.
- Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6(1), 97-113. Doi: 10.1177/1468794106058877.
- Bümen, N. (2005). *Okulda çoklu zekâ kuramı*. Ankara: Pegem Yayıncılık
- Burman, T. N. & Evans, D. C. (2003). *Improving reading skills through multiple intelligences and increased parental involvement*. An Action research project. Chicago: Saint Xavier University & Skylight.
- Buschick, M. E., Shipton, T. A., Winner, L. M., Wise, M. D. (2007). *Increasing reading motivation in elementary and middle school students through the use of multiple intelligences*. An action research project. Chicago, IL: Saint Xavier University.
- Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2012). *Bilimsel araştırma yöntemleri*. Ankara: Pegem Akademi.
- Campbell, B. & Campbell, L. & Dickinson D. (1999). *Teaching and learning through multiple intelligences*. (2nd edition). Massachusetts: Allyn & Bacon.
- Campbell, B. (1994) *The multiple intelligence handbook lessons plans and more*, London: Campbell & Associates
- Campbell, D. T., & Stanley, J. C. (1963). Experimental and quasi-experimental designs for research on teaching. In N. L. Gage (Ed.), *Handbook of research on teaching* (pp. 171–246). Chicago, IL: Rand McNally.
- Campbell, L. (2004). *Teaching and learning through multiple intelligences*. New York: Allyn and Bacon.
- Canan, S. (2015). *Değişen beynim*. İstanbul: Tuti Kitap.

- Caracelli, V. J., & Greene, J. C. (1993). Data analysis strategies for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 15 (2), 195-207.
- Carroll, J.B. (1993). *Human cognitive abilities: A survey of factor analytic studies*. New York: Cambridge University Press.
- Cattell, R. B. (1963). Theory of fluid and crystallized intelligence: A critical experiment. *Journal of Educational Psychology*, 54 (1), 1-22.
- Cavanagh, G. F. (1999). Spirituality for managers: context and critique. *Journal of Organizational Change Management*, 12 (3), 186-199.
- Ceci, S. J. (1996). *On intelligence: A bioecological treatise on intellectual development*. Cambridge, MA: Harvard University Press.
- Ceci, S. J., Rosenblum, T., de Bruyn, E., & Lee, D. L. (1997). A bio-ecological model of intellectual development: moving beyond h^2 . In R. J. Sternberg & E. L. Grigorenko (Eds.), *Intelligence, heredity, and environment* (pp. 303-321). New York: Cambridge University Press.
- Chan, D. W. (2003). Multiple intelligences and perceived self-efficacy among Chinese Secondary School Teachers in Hong-Kong. *Educational Psychology*, 23(5), 521-533.
- Chan, D. W. (2005). Perceived multiple intelligences and learning preferences among Chinese gifted students in Hong Kong. *Journal for the Education of the Gifted*, 29, 187-212.
- Chapple, L., & Curtis, A. (2000). Content-based instruction in Hong Kong: Student responses to film. *System*, 28, 419-433.
- Chen, J. Q., & Gardner, H. (1997). Assessment based on multiple intelligences theory. In D. P. Flanagan & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (pp. 77-102). NY: Guilford Press.
- Christion, M. A. (2004). Applying multiple intelligences theory: In preservice and inservice TEFL education programs. *Forum*, 36(2), 2.

- Christion, M. A., & Kennedy, D. (2004). Multiple intelligences. *TESOL Journal*, 6(1),10-14.
- Christison, M. A. (2005). *Multiple intelligences and language learning: A guidebook of theory, activities, inventories, and resources*. San Francisco, CA: Alta Book Center Publishers.
- Collins, K. M. T., Onwuegbuzie, A. J. & Sutton, I. L. (2006). A model incorporating the rationale and purpose for conducting mixed-methods research in special education and beyond. *Learning Disabilities: A Contemporary Journal*, 4(1), 67-100.
- Conway, A. R. A., & Kovacs, K. (2015). New and emerging models of human intelligence. *Wiley Periodicals*, 1-8.
- Conway, A. R. A., Kane, M. J., Bunting, M. F., Hambrick, D. Z., Wilhelm, O., & Engle, R. W. (2005). Working memory span tasks: A methodological review and user's guide. *Psychonomic Bulletin & Review*, 12, 769-786
- Cook, T.D. & Campbell, D.T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Chicago: Rand McNally.
- Cooper, P. L. (1984). *The assessment of writing ability: A review of research*. Princeton, NJ: Educational Testing Service.
- Council of Europe [CoE, 2001). *Common European framework of reference for languages: Learning, teaching, assessment (CEFR)*. Cambridge: Cambridge University Press.
- Crandall, J. (1987). *ESL through content-area instruction*. Englewood Cliffs, NJ: Prentice Hall.
- Crandall, J., & Tucker, G. R. (1990). Content-based language instruction in second and foreign languages. In S. Anivan (Ed.), *Language teaching methodology for the nineties*, 83-96.
- Creswell, J. W. (2005). *Educational research planning, conducting and evaluating quantitative and qualitative research*. (2nd edition) United States Of America: Pearson Prentice Hall.

- Creswell, J. W. (2002). *Research design: Qualitative, quantitative, and mixed methods approaches*. (2nd edition). Upper Saddle River, N.J. : Merrill.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, London, New Delhi: Sage Publications
- Creswell, J. W., Fetters, M. D. & Ivankova, N. V. (2004). Designing a mixed methods study in primary care. *The Annals of Family Medicine*, 2(1), 7-12. Doi: 10.1370/afm.104
- Cuban, L. (2004). Assessing the 20-year impact of multiple intelligences on schooling. *Teacher College Record*, 106 (1), 140-146.
- Davidson, J. E., & Downing, C. L. (2000). Contemporary models of intelligence. In R. J. Sternberg (Ed.), *Handbook of Intelligence* (pp. 34-49). USA: Cambridge University Press.
- Day, R. R. & Park, J. (2005). Developing reading comprehension questions. *Reading in a Foreign language*, 17 (1), 1-13.
- Demirel, Ö., Başbay, A. and Erdem, E. (2006). *Eğitimde çoklu zeka kuram ve uygulama*. Ankara: Pegem A Yayıncılık.
- Denzin, N. K. (2010). Moments, mixed methods, and paradigm dialogs. *Qualitative Inquiry*, 16(6), 419-427. Doi: 10.1177/1077800410364608
- Diaz-Lefebvre, R. (2006). Learning for understanding: A faculty-driven paradigm shift in learning, imaginative teaching, and creative assessment. *Community College Journal of Research & Practice*, 30 (2), 135-137.
- Doff, A. (2000). *Teach English: A training course for teachers*. (14th edition). Cambridge: Cambridge University Press.
- Downing, S. M. (2006). Selected-response item formats in test development. In S. Lane, T. M. Haladyna, S. M. Downing, & M. Raymond (Eds.), *Handbook of Test Development* (pp. 287 – 301). New Jersey: Lawrence Erlbaum Associates.
- Dörnyei, Z. (2011). *Research methods in applied linguistics*. UK: Oxford University Press.

- Ellis, R. (2004). The definition and measurement of L2 explicit knowledge. *Language Learning* 54(2), 227-275.
- Ellis, R. (2012). *The study of second language acquisition*. New York: Oxford University Press.
- Esmaili, M., Zareh, H., & Golverdi, M. (2014). Spiritual Intelligence: Aspects, components and guidelines to promote it. *International Journal of Management, Accounting and Economics*, 1(2), 162-174.
- Evroro, E. S. (2015). Item analysis of test of number operations. *Asian Journal of Educational Research*, 3 (1), 18 – 25.
- Feldman, D. H. (1980). *Beyond universals in cognitive development*. Norwood, NJ: Ablex
- Flowerdew, J. (1993). Content-based language instruction in a tertiary setting. *English for Specific Purposes*, 12, 121-138.
- Galton, F. (1865). Hereditary talent and character. *Macmillan's Magazine*, 12, 157-166,
- Gardner, H. (1983). *Frames of mind: the theory of multiple intelligences*. New York: Basic Books.
- Gardner, H. (1987). Developing the spectrum of human intelligence. *Harvard Education Review*, 57, 187-193
- Gardner, H. (1991). *The unschooled mind: How children think and how schools should teach*. New York, NY: BasicBooks, Inc.
- Gardner, H. (1993). *Frames of mind: the theory of multiple intelligences*. (2nd edition). New York: Basic Books.
- Gardner, H. (1993b). *Multiple intelligences: the theory in practice*. New York: Basic Books.
- Gardner, H. (1995). Reflections on multiple intelligences: Myths and messages. *Phi Delta Kappan*, 77 (3), 200-203.
- Gardner, H. (1998). A multiplicity of intelligences. *Scientific American Presents: Exploring Intelligence*, 9(4), 18-23.

- Gardner, H. (1999). *Intelligence reframed: multiple intelligences for the 21st century*. New York: Basic Books.
- Gardner, H. (2003). *Multiple intelligences after twenty years*. Paper presented at the American Educational Research Association, Chicago, Illinois.
- Gardner, H. (2006). *Multiple intelligences: New horizons*. (2nd edition). New York, NY: Basic Book.
- Gardner, H. (2006b). Who owns intelligence? In H. Gardner (Ed.), *The development and education of the mind. The selected works of Howard Gardner* (pp. 63-74). Oxon, England: Routledge.
- Gardner, H. (2006c). The unschooled mind. In H. Gardner (Ed.), *The development and education of the mind. The selected works of Howard Gardner* (pp. 133-144). Oxon, England: Routledge.
- Gardner, H. & Moran, S. (2006). The Science of multiple intelligences theory: A response to Lynn Waterhouse. *Educational Psychologist*, 41(4), 227–232.
- Gass, S. & Selinker, L. (2008). *Second language acquisition: An introductory course*. New York: Routledge / Taylor Francis.
- Genesee, F. (1994). *Language and content: Lessons from immersion* (Educational Practice Report No. 11). Washington DC: Center for Applied Linguistics, and National Center for Research on Cultural Diversity and Second Language Learning.
- Gibbons, P. (2003). Mediating language learning: Teacher interactions with ESL students in a content-based classroom. *TESOL Quarterly*, 37, 247-273.
- Gibson, B. P., & Govendo, B. L. (1999). Encouraging constructive behavior in middle school classrooms: A multiple intelligences approach. *Intervention in School & Clinic*, 35(1), 16-22.
- Gilzow, D. & Branaman, L. E. (2000). *Lessons learned: Model early foreign language programs*. Washington, DC: Center for Applied Linguistics.

- Gögebakan, D. (2003). *How students' multiple intelligences differ in terms of grade level and gender*. Unpublished master's thesis, Middle East Technical University, Turkey.
- Goldstein, S. (2015). The evolution of intelligence. In S. Goldstein, D. Panciotta, & J. A. Naglieri (Eds.), *Handbook of intelligence: Evolutionary theory, historical perspective, and current concepts* (pp. 3-7). New York: Springer.
- Goleman, D. (1995). *Emotional intelligence*. New York: Banta Books.
- Goleman, D. (1998). *Working with emotional intelligence*. New York: Bantam Books.
- Goodnough, K. (2001). Implementing multiple intelligences theory in a grade 9 science classroom: The experiences of a high school teacher. *Canadian Journal of Science, Mathematics and Technology Education*, 1(4), 419-436.
- Grabe, W. & Kaplan, R. B. (1996). *Theory & practice of writing*. London: Pearson Education.
- Grabe, W., & Stoller, F. L. (1997). Content-based instruction: Research foundations. In M. A. Snow & D. M. Brinton (Eds.), *The content-based classroom: Perspectives on integrating language and content* (pp.5-21). White Plains NY: Longman.
- Gredler, M. (2005). *Learning and instruction: Theory into practice*. (5th. edition). Upper Saddle River, NJ: Prentice Hall.
- Gregory, G. & Chapman, C. (2002). *Differentiated instructional strategies: One size doesn't fit all*. California: Corwin Press.
- Güler, N. (2004). *İlköğretim 5. sınıf ingilizce öğretiminde çoklu zeka uygulamalarının akademik başarıya ve tutuma etkisi*, Unpublished master's thesis, Sakarya University, The Institute of Social Sciences, Sakarya.
- Güneş, G. & Gökçek, T. (2010). A case study on the graduate students' multiple intelligence types. *Elementary Education Online*, 9(2), 459-473.
- Haladyna, T. M. & Downing, S. M. (2004). Construct-irrelevant variance: A threat in high-stakes testing. *Educational Measurement: Issues and Practice*, 23(1), 17-27.

- Haladyna, T. M. (2004). *Developing and validating multiple-choice test items*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Haladyna, T. M., Downing, S. M., & Rodriguez, M. C. (2002). A review of multiple-choice item-writing guidelines for classroom assessment. *Applied Measurement in Education, 15*(3), 309-334.
- Hatch, J. A. (2002). *Doing qualitative research in education settings*. Albany, NY: State University of New York.
- Hatch, T. (1997). Getting specific about multiple intelligences. *Educational Leadership, 54*(6), 26-29.
- Hauptman, P. C., Wesche, M. B., & Ready, D. (1988). Second language acquisition through subject-matter learning: A follow-up study at the University of Ottawa. *Language Learning, 38*, 433-461.
- Herman, J. L., Aschbacher, P. R., & Winters, L. (1992). Using alternative assessment for decision making. In J. L. Herman, P. R. Aschbacher, & L. Winters (Eds.). *A practical guide to alternative assessment* (pp. 95-122). Alexandria, VA: Association for Supervision and Curriculum Development.
- Hickey, M. G. (2004). Can I pick more than one project? Case students of five teachers who used MI-based instructional planning. *Teachers College Record, 106*(1), 77-86.
- Hine, C. (1997). *Engaging young learners: The teacher's role in early childhood classrooms*. New Jersey: Horizons in Learning.
- Hoerr, T. R. (2000). *Becoming a multiple intelligences school*. Virginia: Association for Supervision and Curriculum Development
- Hoerr, T.R. (2003). It's no fad: fifteen years of implementing multiple intelligences. *Educational Horizons, 81*(2), 92-94.
- Hoerr, T.R. (2016). Multiple ways to learn. *Educational Leadership* (March, 2016), 86-87
- Horn, J. L. (1986). Intellectual ability concepts. In R. J. Sternberg (Ed.), *Advances in the psychology of human intelligence* (pp. 35-77). Hillsdale, NJ: Erlbaum.

- Horn, J. L. (1994). Theory of fluid and crystallized intelligence. In R. J. Sternberg (Ed.), *Encyclopedia of human intelligence* (pp. 443-451). New York: Macmillan.
- Hyland, K. (2003). *Second language writing*. New York, Cambridge University Press.
- Ivanova, V. (2011). Construction and evaluation of achievement tests in English. *Association for the Development of the Information Society*, 276-285
- Jensen, A. R. (1998). *The g factor: The science of mental ability*. USA: Praeger Publishers
- Johnson, D.J.(2006). Differentiating content area curriculum to address individual learning styles. *Illinois Reading Council Journal*, 34(3), 26-39.
- Johnson, W., & Bouchard, T. J. (2005). The structure of human intelligence: It is verbal, perceptual, and image rotation (VPR), not fluid and crystallized. *Intelligence*, 33, 393-416. doi:10.1016/j.intell.2004.12.002
- Johnson, W., Bouchard, T. J., Krueger, R. J., McGue, M., & Gottesman, I. J. (2004). Just one g: Consistent results from three test batteries. *Intelligence*, 32, 95–107.
- Kane H. & Brand, C. (2003). The importance of Spearman's g as a psychometric, social, and educational construct. *The Occidental Quarterly*, 3(1), 7-30.
- Kane, M. T. (2006). Validation. In R. L. Brennan (Ed.), *Educational measurement* (4th edition, pp. 17-64). Westport, CT: Praeger.
- Karadeniz, N. G. (2006). *Çoklu zekâ kuramı tabanlı öğretimin Anadolu Lisesi 9. sınıf öğrencilerinin İngilizce dersindeki başarılarına ve öğrenilen bilgilerinin kalıcılığa etkisi*. Unpublished Master's Thesis, Süleyman Demirel University, Institute of Social Sciences, Isparta.
- Karasar, N.(2012). *Bilimsel araştırma yöntemi*. Ankara: Nobel Yayıncılık
- Kasper, L. F. (1997). The impact of content-based instructional programs on the academic programs of ESL students. *English for Specific Purposes*, 16, 309-320.
- Kaufman, J. C. (2015). Why creativity isn't in IQ tests, why it matters, and why it won't change anytime soon probably. *Journal of Intelligence*, 3, 59-72. doi:10.3390/jintelligence3030059.

- Kaya, O.N. & Selçuk, Z. (2009). Multiple intelligences practices in Turkey. In J-Q. Chen, S. Moran and H. Gardner (Eds.), *Multiple intelligences around the world* (pp. 245-255). San Francisco: Jossey-Bas Publishers.
- Kornhaber, M. L. (2004). Multiple intelligences: From the ivory tower to the dusty classroom-but why? *Teachers College Record*, 106(1), 67-76.
- Kornhaber, M., Krechevsky, M & Gardner, H. (1990). Engaging intelligence. *Educational psychologist*, 25 (3), 177-199.
- Krashen, S. D. (1985). *The Input hypothesis: Issues and implications*. London: Cambridge University Press.
- Küçüktekeli, A. & Yılmaz, E. (2015). Development of an A2 level grammar achievement test in accordance with CEFR. *The Online Journal of Counseling and Education*, 4(3), 76-89.
- Larsen-Freeman, D. & Anderson, M. (2015). *Techniques & Principles in Language Teaching*. Oxford: Oxford University Press.
- Lawrence, L. (1998). How new science curriculums reflect brain research. *Educational Leadership*, 56(3), 26-30.
- Lazear, D. (1998). *The rubrics way: using mi to assess understanding*. Tucson, AZ: Zephyr Press.
- Lazear, D. (2000). *The Intelligent curriculum: Using MI to develop your student's full potential*. New York: Zephyr Press.
- Lazear, D. (2003). *Eight ways of teaching*. California: Corwin Press.
- Lazear, D. (2004). *Higher-order thinking the multiple intelligences way*. Saint Paul, MN: Zephyr Press.
- Leaver, B. L., & Stryker, S. B. (1989). Content-based instruction for foreign language classrooms. *Foreign Language Annals*, 22, 269-275
- Lewis, M. (1994). Implications of a lexical view of language. In D. Willis & J. Willis (Eds.), *Challenge and change in language teaching* (pp. 10-16). UK: Macmillan Heinemann.

- Lightbown, P. M. & Spada, N. (2010). *How languages are learned*. New York: Oxford University Press.
- Lindsey, R. B., Roberts, L. M., & CampbellJones, F. (2005). *The culturally proficient school: An implementation guide for school leaders*. Thousand Oaks, CA: Sage Publications.
- Linn, R. L., & Miller, M. D. (2005). *Measurement and assessment in testing*. (9th edition). New Jersey: Pearson Merrill Prentice Hall.
- Liu, H. & Chen, T. (2014). Learner differences among children learning a foreign language: language anxiety, strategy use, and multiple intelligences. *English Language Teaching*, 7(6), 1-13.
- Lourdrel, N., Gondran, N., Laforest, V., Debray, B. & Brodhag, C. (2007). Sustainable development cognitive map: A new method of evaluating student understanding. *International Journal of Sustainability in Higher Education*, 8(2), 170-177.
- Lyster, R. (1994). The effect of functional-analytic teaching on aspects of French immersion learners' sociolinguistic competence. *Applied Linguistics*, 15, 263-287.
- Lyster, R. (1998). Negotiation of form, recasts, and explicit correction in relation to error types and learner repair in immersion classrooms. *Language Learning*, 48, 183-218.
- Lyster, R., & Ranta, L. (1997). Corrective feedback and learner uptake: Negotiation of form in communicative classrooms. *Studies in Second Language Acquisition*, 19, 37-66.
- Madkour, M. (2009). Multiple intelligences and English as a second language: Explorations in language acquisition. Unpublished doctoral dissertation. University of Phoenix, USA.
- Mansilla, V. B. and Gardner, H. (2008). Disciplining the mind. *Educational Leadership*, 65(5), 14-19.

- Massa, J. (1997). Alternative assessment of second-language writing: A developmental model. In S. Tchudi, (Ed.), *Alternatives to Grading Students Writing* (77-89). Urbana: National Council of Teachers of English
- Mayer, J. D., & Salovey, P. (1995). Emotional intelligence and the construction and regulation of feelings. *Applied and Preventive Psychology*, 4, 197-208.
- Mayer, J. D., DiPaolo, M. T., & Salovey, P. (1990). Perceiving affective content in ambiguous visual stimuli: A component of emotional intelligence. *Journal of Personality Assessment*, 54, 772 - 781.
- Mayer, J. D., Caruso, D. R., & Salovey, P. (2000). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, 27(4), 267-298.
- Mbuva, J. (2003). Implementation of multiple intelligences theory in the 21st century teaching and learning environments: A new tool for effective teaching and learning for all levels. ERIC, Reports, National University.
- McConachy, T. & Hata, K. (2013). Addressing textbook representations of pragmatics and culture. *ELT Journal*, 67 (3), 294-301.
- McCowan, R. J. & McCowan, S. C. (1999). *Item analysis for criterion-referenced tests*. New York: State University, Center for Development of Human Services
- McMahon, S. D., Rose, D. S., Parks, M. (2004). Multiple intelligences and reading achievement: An examination of the Teele inventory of multiple intelligences. *The Journal of Experimental Education*, 73(1), 41-52.
- McTighe, J., & O'Connor, K. (2005). Seven practices for effective learning. *Educational Leadership*, 63(3), 10-17.
- Menevis, I. & Ozad, B. E. (2014). Do age and gender influence multiple intelligences? *Social Behavior and Personality: An International Journal*, 42, 9-20.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- Met, M. (1991). Learning language through content: Learning content through language. *Foreign Language Annals*, 24, 281-295.

- Met, M. (1999). *Content-based instruction: Defining terms, making decisions*. Washington, DC: The National Foreign Language Center.
- Mettetal, G., Jordan, C., Harper & Sheryll. (1997). Attitudes towards a multiple intelligence curriculum. *Journal of Educational Research*, 91(2), 115-122.
- Meyer, M., & Glock, J. (2004). Learning celebrations are authentic assessments of student understanding. *Intelligence Connections, Newsletter of the ASCD, Multiple Intelligences Network*, XI (3), 35-40.
- Meyerhoff, M. K. (2004). Perspectives in parenting: Multiple intelligences. *Pediatrics for Parents*, 21(2), 8-9.
- Milli Eğitim Bakanlığı (2013). *English language curriculum for primary education*. Ankara: Talim ve Terbiye Kurulu Başkanlığı
- Milli Eğitim Bakanlığı (2014). *English language curriculum for secondary education*. Ankara: Talim ve Terbiye Kurulu Başkanlığı
- Mirzaei, A., Rahimi Domakani, M., & Heidari, N. (2014). Exploring the relationship between reading strategy use and multiple intelligences among successful L2 readers. *Educational Psychology*, 34(2), 208-230.
- Mitchell, R., Myles, F., & Marsden, E. (2013). *Second language learning theories*. London: Routledge.
- Mohan, B. A. (1986). *Language and content*. Reading, MA: Addison-Wesley.
- Moran, S., Kornhaber, M., & Gardner, H. (2006). Orchestrating multiple intelligences. *Educational Leadership*, 64(1), 22-27.
- Nicolas, S., Andrieu, B., Croizet, J. - C., Sanitioso, R. B., & Burman, J. T. (2013). Sick? Or Slow? On the origins of intelligence as a psychological object. *Intelligence*, 41, 699 – 711.
- Noble, T. (2004). Integrating the revised Bloom's taxonomy with multiple intelligences: A planning tool for curriculum differentiation. *Teachers College Record*, 106(1), 193-211.
- Nolen, J. L. (2003). Multiple intelligences in the classroom. *Education*, 124(1), 115-120.

- Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning*, 50, 417-528.
- Obler, L. K. & Gjerlow, K. (1999). *Language and the brain*. Cambridge: Cambridge University Press.
- Özçelik, D. A. (2010). *Ölçme ve değerlendirme*. Ankara: Pegem Akademi Yayıncılık
- Özdener, N., & Özçoban, T. (2004). A project based learning model's effectiveness on computer courses and multiple intelligences theory. *Educational Science Theory & Practice*, 4(1), 164-170.
- Pal, H.R., Pal, P. & Tourani, P. (2004). Theories of intelligence. *Everyman's Science*, 39 (3), 181-186.
- Parker, K. B., Murnane, R.J., City, E., Moody, L. (2005). Teaching educators how to use student assessment data to improve instruction. *Phi Delta Kappan*, 86(9), 700.
- Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd edition). London: Sage.
- Pekderin, S. (2006). *The effectiveness of multiple intelligence activities on vocabulary learning in elementary classes*. Unpublished master's thesis. Çanakkale On Sekiz Mart University, Çanakkale.
- Pica, T. (2002). Subject-matter content: How does it assist the interactional and linguistic needs of classroom language learners? *The Modern Language Journal*, 86, 1-19.
- Popham, W. J. (2006). *Assessment for educational leaders*. Boston: Pearson.
- Purpura, J. (2004). *Assessing grammar*. Cambridge: Cambridge University Press.
- Purpura, J. (2013). Assessment of grammar. In A. J. Kunnan (Ed.), *Companion to Language Assessment* (pp. 100-124). Oxford, UK: Wiley-Blackwell.
- Rattanavich, S. (2013). Comparison of effects of teaching English to Thai undergraduate teacher-students through cross-curricular thematic instruction program based on multiple intelligence theory and conventional instruction. *English Language Teaching*, 6(9), 1-18.

- Razmjoo, S. A. (2008). On the relationship between multiple intelligences and language proficiency. *The Reading Matrix*, 8, 155-174.
- Reichardt, C. S. (2009). Quasi-experimental design. In R. E. Millsap, A. Maydeu-Olivares (Eds.), *The SAGE handbook of quantitative methods in psychology* (pp. 46 – 71). London: Sage Publications.
- Reid, J. (1993). *Teaching ESL writing*. New Jersey: Prentice Hall Regents.
- Reidel, J., Tomaszewski, T., & Weaver, D. (2003). *Improving student academic reading achievement through the use of multiple intelligence teaching strategies*. An Action research project (Report No. CS 512 364), Chicago: Saint Xavier University
- Rettig, M. (2005). Using the multiple intelligences to enhance instruction of young children and young children with disabilities. *Early Childhood Education Journal*, 32(4), 255-259. DOI:10.1007/210643-004-0865-2
- Richards, J. C. (2006). *communicative language teaching today*. New York: Cambridge University Press.
- Richards, J. C. & Rodgers, T. S. (2001). *Approaches and methods in language teaching*. (2nd edition). Cambridge, New York. Cambridge University Press.
- Rodgers, D. M. (2006). Developing content and form: Encouraging evidence from Italian content-based instruction. *The Modern Language Journal*, 90, 373-386.
- Saban, A. (2005). *Çoklu zeka teorisi ve eğitim*. (5th edition). Ankara: Nobel Yayın Dağıtım.
- Saban, A. (2010). *Çoklu zeka kuramı ve Türk eğitim sistemine yansımaları*. (6. basım). Ankara: Nobel Yayın Dağıtım.
- Sabet M. K. & Kiaee, M. M. (2016). The relationship between multiple intelligences and reading comprehension of EFL learners across genders. *International Journal of Education & Literacy Studies*, 4 (1), 74-82
- Salem, A. & Atta M. S. (2013). The impact of multiple intelligences-based instruction on developing speaking skills of the pre-service teachers of English. *English Language Teaching*, 6(9), 53-66.

- Sarıcaoglu, A. & Arıkan, A. (2009). A study of multiple intelligences, foreign language success and some selected variables. *Journal of Theory and Practice in Education*, 5(2), 100-122.
- Saville-Troike, M. (2006). *Introducing second language acquisition*. New York: Cambridge University Press.
- Schunk, D. (2004). *Learning theories: An education perspective*. (4th edition). Upper Saddle River, NJ: Prentice Hall.
- Schweizer, K. & Koch, W. (2002). A revision of Cattell's investment theory: cognitive properties influencing learning. *Learning and Individual Differences*, 26(1), 43-51.
- Scrivener, J. (2005). *Learning teaching: A guidebook for English language teachers*. UK: Macmillan.
- Seidman, I. (2013). *Interviewing as qualitative research: A guide for researchers in education and the social sciences*. New York, NY: Teachers College Press.
- Selman, L, Harding, R and Speck, P. (2011). The measurement of spirituality in palliative care and the content of tools validated cross-culturally: A systematic review. *Journal of Pain and Symptom Management*, 41 (4), 728-753.
- Short, D. J. (1991). *How to integrate language and content instruction: A training manual*. Washington DC: CAL.
- Siegel, J. & Shaughnessy, M. F. (1994). Educating for understanding. *Phi Delta Kappan*, 75 (7), 563-566.
- Silver, H.F. & Strong, R.W.& Perini, M.J. (2000). *So each may learn*. U.S.A.: Silver Strong & Associates, Inc.
- Singh, M.P. & Sinha, J. (2013). Impact of spiritual intelligence on quality of life. *International Journal of Scientific and Research Publications*, 3 (5), 1-5.
- Skehan, P. (1996). Second language acquisition research and task-based instruction. In J. Willis & D. Willis (Eds.), *Challenge and change in language teaching* (pp. 17–30). Oxford: Heinemann.

- Snow, M. A. (1991). Teaching language through content. In M. Celce-Murcia (Ed.), *Teaching English as a second or foreign language* (2nd edition, pp. 315-326). Boston, MA: Heinle & Heinle.
- Snyder, R. F. (2000). The relationship between learning styles/multiple intelligences and academic achievement of high school students. *The High School Journal*, 83(2), 11-20.
- Spada, N., & Lightbown, P. M. (2008). Form-focused instruction: Isolated or integrated? *TESOL Quarterly*, 42, 181-207.
- Sproull, N. L. (2002). *Handbook of research methods: A guide for practitioners and students in social sciences*. Oxford: Oxford Publicity Partnership.
- Stanford, P. (2003). Multiple intelligence for every classroom. *Intervention in School and Clinic*, 39(2), 80-85.
- Stefanakis, E. H. (2002). *Multiple intelligences and portfolios: a window into the learner's mind*. Portsmouth: Heinemann.
- Sternberg, R. J. (1985). *Beyond IQ: A triarchic theory of human intelligence*. New York: Cambridge University Press.
- Sternberg, R. J. (1988). *The triarchic mind: A new theory of human intelligence*. New York, NY: Viking Press.
- Sternberg, R. J. (1997). *Successful intelligence*. New York: Plume.
- Sternberg, R. J. (2000). The concept of intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 3-16). UK: Cambridge University Press.
- Stiggins, R. (2004). New assessment beliefs for a new school mission. *Phi Delta Kappan*, 86(1) 22.
- Stoller, F. L. (2004). Content-based instruction: Perspectives on curriculum planning. *Annual Review of Applied Linguistics*, 24, 261-283.
- Stoller, F. L., & Grabe, W. B. (1997). Six T's approach to content-based instruction. In M. A. Snow & D. M. Brinton (Eds.), *Content-based classroom: Perspectives on integrating language and content* (pp. 78-94). White Plains, NY: Longman.

- Stryker, S. B. & Leaver, L. L. (1997). *Content-based instruction in foreign language education: Models and methods*. Washington DC: Georgetown University Press.
- Şen, H. C. ve Eryılmaz, A. (2011). Bir başarı testi geliştirme çalışması: Basit elektrik devreleri başarı testi geçerlik ve güvenirlik araştırması. *Yüzyüncü Yıl Üniversitesi, Eğitim Fakültesi Dergisi*, 8 (1), 1-39.
- Şengül, M. (2015). The relationship between writing dispositions and intelligence domains of gifted students. *International Journal of Higher Education*, 4(4), 207-215.
- Tanrıöğen, A. (2011). *Bilimsel araştırma yöntemleri*. Ankara: Anı Yayıncılık.
- Teele, S. (2000). *Rainbows of Intelligence: Exploring how students learn*. California: Corwin Press, Inc.
- Terman, L. M. (1916). *The measurement of intelligence*. Cambridge: The Riverside Press.
- Tharp, J. B. (2008). Modern foreign languages. *Review of Educational Research*, 2 (1), 47-55.
- Tomlinson, C. A. (1999). *The differentiated classroom: Responding to the needs of all learners*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Tomlinson, C. A. (2001). *How to differentiate instruction in mixed-ability classrooms*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Tomlinson, C. A. (2008). Learning to love assessment. *Educational Leadership*, 65(4), 8-13.
- Tomlinson, C. A. & Eidson, C. C. (2003). *Differentiation in practice: A resource guide for differentiating curriculum Grades 5-9*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Tuckman, B. W. (1999). *Conducting educational research*. California: Wadsworth Publishing.

- Turnbull, M., Lapkin, M., & Hart, D. (2001). Grade 3 immersion students' performances in literacy and mathematics: Province-wide results from Ontario (1998-99). *The Canadian Modern Language Review*, 58, 9-26.
- Tyler, A. (2008). Cognitive linguistics and language learning. In P. Hogan (Ed.), *Cambridge University Encyclopedia of Language Sciences*. UK: Cambridge University Press.
- Ur, P. (1996). *A course in language teaching*. New York: Cambridge University Press.
- Vaughan, F. (2002). What is spiritual intelligence? *Journal of Humanistic Psychology*, 42(2), 16-33.
- Visser, B. A., Ashton, M. C., & Vernon, P. A. (2006). What makes you think you're so smart? Measured abilities, personality, and sex differences in relation to self-estimates of multiple intelligences. *Journal of Individual Differences*, 29, 35-44. doi:10.1027/1614-0001.29.1.35
- Walia, D.N. (2012). Traditional Teaching Methods vs. CLT: A Study. *Frontiers of Language and Teaching*, 3, 125-131.
- Walters, J. & Gardner, H. (1986). The crystallizing experience: Discovery of an intellectual gift. In R. Sternberg & J. Davidson (Eds.), *Conceptions and giftedness*. New York: Cambridge University Press.
- Weber, E. (2005). *MI Strategies in the classroom and beyond*. USA: Pearson Education.
- Weinbaum, A., Allen, D., Blythe, T., Simon, K., Seidel, S., & Rubin, C. (2004). *Teaching as inquiry: Asking hard questions to improve practice and student achievement*. New York, NY: Teachers College Press.
- Welch, C. (2006). Item and prompt development in performance testing. In S. Lane, T. M. Haladyna, S. M. Downing, & M. Raymond (Eds.), *Handbook of test development* (pp.303-328). New Jersey: Lawrence Erlbaum Associates.
- White, R. V. (1988). *The ELT curriculum*. Oxford: Blackwell Publishers.
- Wigglesworth, C. (2002). Spiritual intelligence and why it matters. *Deep Chance*, 1-6.
- Wigglesworth, C. (2012). *The twenty one skills of spiritual intelligence*. New York: Selectbooks.

- Willis, D. & Willis, J. (1996). *Challenge and change in language teaching*. UK: Macmillan Heinemann
- Wolcott, W., & Legg, S. M. (1998). *An overview of writing assessment: theory, research and practice*. Urbana, IL: NCTE.
- Xia, Y. (2014). Language theories and language teaching-from traditional grammar to functionalism. *Journal of Language Teaching and Research*, 5(3), 559-565. doi:10.4304/jltr.5.3.559-565
- Xu, R. (1993). *A theoretical grammar of English*. Nanning: Guangxi People's Publishing House.
- Yalçın, Ş. (2007). *Exploring the effects of content-based instruction on skill development, domain-specific knowledge and metacognition in the L2*. Unpublished master's thesis, Boğaziçi University, İstanbul, Turkey.
- Yavuz, B. (2010). *The effects of multiple intelligences activities on vocabulary achievement and attitudes of learners of English*. Unpublished doctoral dissertation. Dokuz Eylül University, Institute of Educational Sciences, İzmir.
- Yule, G. (2010). *The study of language*. New York: Cambridge University Press.
- Zenderland L (1998). *Measuring minds: Henry Herbert Goddard and the origins of the American testing movement*. Cambridge University Press: Cambridge.
- Zohar, D. & Marshall, I. (2004). *Spiritual capital: wealth we can live by*. California: Berrett-Koehler Publishers

APPENDIX

APPENDIX 1. BINET-SIMON INTELLIGENCE TEST (1905)

First version of the metric scale of intelligence (July 1905)

Basic skills assumed of an “idiot”

1. Object tracking. Coordination task, involving head movement and eye movement, to follow the motion of a lit match. For blind children, a similar task using sound can be used.
2. Grasping provoked by tactile “excitation.” Coordination task, involving the hand and a small object (e.g., a piece of wood), such that the felt-object is taken and brought to the mouth without letting it fall.
3. Grasping provoked by visual perception. Coordination task, involving the display of a small wooden cube, such that the observed-object is taken and brought to the mouth without letting it fall.
4. Knowledge of food. Discrimination task, involving a piece of chocolate and a wooden cube of similar size (i.e., *After receiving the chocolate, does the subject still try to eat the wood?*).
5. Food-seeking complicated by a minor mechanical difficulty. Task involving memory, the will, and the coordination of movements when a chocolate is wrapped in a piece of paper (i.e., *Does the child unwrap the chocolate before trying to eat it?*).
6. Following simple directions and imitation of simple gestures. Tasks directed toward examining the coordination and association of movements, as well as the meanings of various gestures, with the explicit recognition that these are social interactions.

Differentiating between “idiocy” and “imbecility”

- 7a. Verbal knowledge of objects. Tasks to demonstrate the existence of associations between words and things-named, with reference to parts of the body (e.g., “Where is your head?”) and familiar objects (e.g., “Give me the cup”). Again, this is explicitly social.
- 7b. Verbal knowledge of images. Task to demonstrate the existence of associations between words and things-named, with reference to their representation in an illustration of the complex family scene shown in Fig. 1 (e.g., “Where is the window?”).
- 7c. Naming indicated objects. Task to demonstrate the existence of associations between things and their proper names, by naming the objects indicated by the experimenter in the provided illustration (e.g., “What is this?”). This task is the inverse of #7b.
10. Comparison of two lines of different lengths. The first task that belongs recognizably to “experimental psychology”, this requires that the subject identify the longer line through several different presentations (e.g., comparing a 3 cm segment with a 4 cm segment, when separated by a space of 5 mm).
11. Repetition of three numbers. Memory task, involving both “immediate” memory and sustained attention, with special notice for cases where the subject produces more than three numbers or when the subject seems satisfied with a response that is obviously wrong. An explicit differentiation is also made between “errors of attention” and “errors of judgment.”

 Differentiating between “imbecility” and “debility”

12. Comparison of two weighted boxes. Task requiring sustained attention, visual perception, a decision to physically test the weights of two apparently-identical objects, and the comparison of muscular sensations. A more complex version of the task also varies the size of the boxes. For normal children, larger boxes with identical weight will appear to weigh less; this “illusion” does not occur in all subnormal cases (i.e., for those who are incapable of comparing the weights).
 13. Suggestibility. While not strictly speaking a test of intelligence, this step is important because suggestion can produce effects which are, in some respects, similar to the natural manifestations of feeble-mindedness. This set of three tasks therefore requires the identification of objects named by the experimenter but not provided (the inverse of #7a), the labeling of a picture using labels of unknown words (e.g., “Where is the *patapoum*?”), and a variation on #10 in which the lines are of equal length (viz. “Which is longer?”). In this last case, it is the hesitation before answering which matters most.
 14. Verbal definitions of known objects. Task involving language, specifically of the subject's aptitude for describing a simple idea (“fork”, “house”, etc.) and putting it into words (e.g., “A fork is to eat with” vs. “A house, it is a house”).
 15. Repetition of sentences of fifteen words. Task involving “immediate” memory, sustained attention, and language. These are not random assortment of words, however, and instead follow standard cultural patterns (e.g., “I rise in the morning, I dine at midday, I go to bed at night”). It is normal for subjects to substitute a simpler synonym (e.g., “eat”) for a more complex term (e.g., “dine”). Several sentences of varying difficulty are provided.
 16. Comparison of known objects from memory. A task involving ideation, an understanding of the notion of “different”, and reflection on comparisons made between previously observed objects: “In what ways are they different? Why are they not the same?” At issue is whether the subject (a) understands the task at all, (b) responds with an absurdity, or (c) can provide a remotely reasonable reply.
 17. Exercise of memory involving images. A task requiring sustained attention and “visual” memory. Thirteen familiar objects are shown, together, for thirty seconds and then hidden. The subject is then asked to recall the names of the objects. In instances where a distraction may have affected performance, a different set of pictures is used and the task repeated.
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 Differentiating between “imbecility” and “debility”

18. Drawing from memory. A task involving attention, visual memory, and some analysis. Two schematic images—one resembling a boxer (his torso posed in victory), and the other an open three-dimensional box seen from the front (and slightly to the right)—are presented for ten seconds each. The subject is then asked to reproduce them in turn.
19. Immediate repetition of numbers. Similar to task #11, but with special attention given to errors in judgment.
20. Similarities between several known, remembered objects. A task requiring sustained attention, awareness of similarities, and dedication to detail (e.g., “How are poppies and blood similar?” and “In what ways are ants, flies, butterflies, and flees similar?”). As with many previous tasks, it is important to first ascertain whether the subject knows what these objects are.
21. Comparison of lengths. Task aimed at the rapid discrimination of differences across a series of lengths, first varying between 30 cm and 35 cm (15 presentations of two lines per page) and then varying between 100 mm and 103 mm (12 presentations of two lines).
22. Rank-ordering of five weights. Task involving sustained attention, an appreciation of different weights, and memory of previous decisions. Five small cubes of identical size and color are presented—weighing 3 g, 6 g, 9 g, 12 g, and 15 g—which are to be lined up in order of increasing weight.
23. Identifying the missing object in a previously well-ordered set of weights. After the child has completed #22, their eyes are covered and one of the weights removed. After removing the blindfold: “Which weight is missing?” (If there is a question as to whether the boxes are truly identical, they are to be wrapped in paper before being unveiled.)
24. Rhyming exercise. Task involving vocabulary, mental flexibility, spontaneity, and broad intellectual activity: *Given a word, how many rhymes can the child find in a minute?*
25. Providing missing words. Task requiring memory, linguistic competence, and judgment: “It’s nice out, so the sky is ____” (with increasing complexity).
26. Inventing a sentence using three provided words. Task requiring spontaneity, inventiveness in combining words, and linguistic aptitude: “Given these words—*Paris, river, fortune*—what story can you tell in just one sentence?”

Differentiating between “debility” and “normality”

27. Reply to an abstract question. A task involving 25 questions of increasing complexity, to which the child must provide a sensible answer (e.g., “Before deciding something important, what should you do?” and “When someone offends you, but has apologized, what should you do?”).
 28. Reversal of the hands on an analog clock. Task requiring reasoning, attention, and visual imagination. After the child has demonstrated that they are able to read an analog clock face, hide the clock and ask them to reverse the hands using mental operations only. (It is important to note when they claim to know the time, before reversing the hands, but then make a mistake in reading it.)
 29. Paper cutting. Task requiring attention, reasoning, and visual imagination, but not language. The experimenter slowly and obviously folds a piece of paper in half, twice (i.e., to quarter its original size), then cuts out a triangle. The child is asked to draw, on a second identical piece of paper, what the first piece of paper will look like when it is unfolded.
 30. Definition of abstract terms. Similar to #27, but more complex: “What is the difference between respect and friendship?” or “between boredom and unhappiness?”.
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APPENDIX 2. AN EXAMPLE OF IQ TEST FOUND IN BINET-SIMON INTELLIGENCE SCALE AND ITS IMPLEMENTATION AND SCORING PROCEDURE

INSTRUCTIONS FOR YEAR V

(Terman, 1916, pp. 82 - 87)

V, 1. Comparison of weights

Materials. It is necessary to have two weights, identical in shape, size, and appearance, weighing respectively 3 and 15 grams.^[50] If manufactured weights are not at hand, it is easy to make satisfactory substitutes by taking stiff cardboard pill-boxes, about 1¼ inches in diameter, and filling them with cotton and shot to the desired weight. The shot must be embedded in the center of the cotton so as to prevent rattling. After the box has been loaded to the exact weight, the lid should be glued on firmly. If one does not have access to laboratory scales, it is always possible to secure the help of a druggist in the rather delicate task of weighing the boxes accurately. A set of pill-box weights will last through hundreds of tests, if handled carefully, but they will not stand rough usage. The manufactured blocks are more durable, and so more satisfactory in the long run. If the weights are not at hand, the alternative test may be substituted.

Procedure. Place the 3- and 15-gram weights on the table before the child some two or three inches apart. Say: "*You see these blocks. They look just alike, but one of them is heavy and one is light. Try them and tell me which one is heavier.*" If the child does not respond, repeat the instructions, saying this time, "*Tell me which one is the heaviest.*" (Many American children have heard only the superlative form of the adjective used in the comparison of two objects.)

Sometimes the child merely points to one of the boxes or picks up one at random and hands it to the examiner, thinking he is asked to *guess* which is heaviest. We then say: "*No, that is not the way. You must take the boxes in your hands and try them, like this*" (illustrating by lifting with one hand, first one box and then the other, a few inches from the table). Most children of 5 years are then able to make the comparison correctly. Very young subjects, however, or older ones who are retarded, sometimes adopt the rather questionable method of lifting both weights in the same hand at once. This is always an unfavorable sign, especially if one of the blocks is placed in the hand on top of the other block.

Scoring. The test is passed if *two of the three* comparisons are correct. If there is reason to suspect that the successful responses were due to lucky guesses, the test should be entirely repeated.

V, 2. Naming colors

Materials. Use saturated red, yellow, blue, and green papers, about 2×1 inch in size, pasted one half inch apart on white or gray cardboard. For sake of uniformity it is best to match the colors manufactured especially for this test. [52]

Procedure. Point to the colors in the order, red, yellow, blue, green. Bring the finger close to the color designated, in order that there may be no mistake as to which one is meant, and say: "What is the name of that color?" Do not say: "What color is that?" or, "What kind of a color is that?" Such a formula might bring the answer, "The first color"; or, "A pretty color." Still less would it do to say: "Show me the red," "Show me the yellow," etc. This would make it an entirely different test, one that would probably be passed a year earlier than the Binet form of the experiment. Nor is it permissible, after a color has been miscalled, to return to it and again ask its name.

Scoring. The test is passed only if *all* the colors are named correctly and without marked uncertainty. However, prefixing the adjective "dark," or "light," before the name of a color is overlooked.

V, 3. Æsthetic comparison

Use the three pairs of faces supplied with the printed forms. It goes without saying that improvised drawings may not be substituted for Binet's until they have first been standardized.

Procedure. Show the pairs in order from top to bottom. Say: "Which of these two pictures is the prettiest?" Use both the comparative and the superlative forms of the adjective. Do not use the question, "Which face is the uglier (ugliest)?" unless there is some difficulty in getting the child to respond. It is not permitted, in case of an incorrect response, to give that part of the test again and to allow the child a chance to correct his answer; or, in case this is done, we must consider only the original response in scoring.

Scoring. The test is passed only if *all three* comparisons are made correctly. Any marked uncertainty is failure. Sometimes the child laughingly designates the ugly picture as the prettier, yet shows by his amused expression that he is probably conscious of its peculiarity or absurdity. In such cases "pretty" seems to be given the meaning of "funny" or "amusing." Nevertheless, we score this response as failure, since it betokens a rather infantile tolerance of ugliness.

V, 4. Giving definitions in terms of use

Procedure. Use the words: *Chair, horse, fork, doll, pencil, and table.* Say: "You have seen a chair. You know what a chair is. Tell me, what is a chair?" And so on with the other words, always in the order in which they are named above.

Occasionally there is difficulty in getting a response, which is sometimes due merely to the child's unwillingness to express his thoughts in sentences. The earlier tests require only words and phrases. In other cases silence is due to the rather indefinite form of the question. The child could answer, but is not quite sure what is expected of him. Whatever the cause, a little tactful urging is nearly always sufficient to bring a response. In this test we have not found the difficulty of overcoming silence nearly as great as others have stated it to be. In consecutive tests of 150 5- and 6-year-old children we encountered unbreakable silence with 8 words out of the total 900 (150×6). This is less than 1 per cent. But tactful encouragement is sometimes necessary, and it is best to take the precaution of not giving the test until *rapport* has been well established.

The urging should take the following form: "I'm sure you know what a ... is. You have seen a Now, tell me, what is a ... ?" That is, we merely repeat the question with a word of encouragement and in a coaxing tone of voice. It would not at all do to introduce other questions, like, "What does a ... look like?" or, "What is a ... for?" "What do people do with a ... ?"

Sometimes, instead of attempting a definition (of *doll*, for example), the child begins to talk in a more or less irrelevant way, as "I have a great big doll. Auntie gave it to me for Christmas," etc. In such cases we repeat the

question and say, “*Yes, but tell me; what is a doll?*” This is usually sufficient to bring the little chatter-box back to the task.

Unless it is absolutely necessary to give the child lavish encouragement, it is best to withhold approval or disapproval until the test has been finished. If the first response is a poor one and we pronounce it “fine” or “very good,” we tempt the child to persist in his low-grade type of definition. By withholding comment until the last word has been defined, we give greater play to spontaneity and initiative.

Scoring. As a rule, children of 5 and 6 years define an object in terms of use, stating what it does, what it is for, what people do with it, etc. Definitions by description, by telling what substance it is made of, and by giving the class to which it belongs are grouped together as “definitions superior to use.” It is not before 8 years that two thirds of the children spontaneously give a large proportion of definitions in terms superior to use.

The test is passed in year V if *four words out of the six* are defined in terms of use (or better than use). The following are examples of satisfactory responses:—

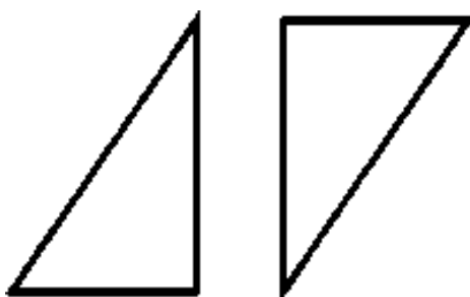
- *Chair*: “To sit on.” “You sit on it.” “It is made of wood and has legs and back,” etc.
- *Horse*: “To drive.” “To ride.” “What people drive.” “To pull the wagon.” “It is big and has four legs,” etc.
- *Fork*: “To eat with.” “To stick meat with.” “It is hard and has three sharp things,” etc.
- *Doll*: “To play with.” “What you dress and put to bed.” “To rock,” etc.
- *Pencil*: “To write with.” “To draw.” “They write with it.” “It is sharp and makes a black mark.”
- *Table*: “To eat on.” “What you put the dinner on.” “Where you write.” “It is made of wood and has legs.”

Examples of failure are such responses as the following: “A chair is a chair”; “There is a chair”; or simply, “There” (pointing to a chair). We record such responses without pressing for a further definition. About the only other type of failure is silence.

V, 5. The game of patience

Material. Prepare two rectangular cards, each 2 × 3 inches, and divide one of them into two triangles by cutting it along one of its diagonals.

Procedure. Place the uncut card on the table with one of its longer sides to the child. By the side of this card, a little nearer the child and a few inches apart, lay the two halves of the divided rectangle with their hypotenuses turned from each other as follows:



Then say to the child: *“I want you to take these two pieces (touching the two triangles) and put them together so they will look exactly like this”* (pointing to the uncut card). If the child hesitates, we repeat the instructions with a little urging. Say nothing about hurrying, as this is likely to cause confusion. Give three trials, of one minute each. If only one trial is given, success is too often a result of chance moves; but luck is not likely to bring two successes in three trials. If the first trial is a failure, move the cut halves back to their original position and say: *“No; put them together so they will look like this”* (pointing to the uncut card). Make no other comment of approval or disapproval. Disregard in silence the inquiring looks of the child who tries to read his success or failure in your face.

If one of the pieces is turned over, the task becomes impossible, and it is then necessary to turn the piece back to its original position and begin over, not counting this trial. Have the under side of the pieces marked so as to avoid the risk of presenting one of them to the child wrong side up.

Scoring. There must be *two successes in three trials*. About the only difficulty in scoring is that of deciding what constitutes a trial. We count it a trial when the child brings the pieces together and (after few or many changes) leaves them in some position. Whether he succeeds after many moves, or leaves the pieces with approval in some absurd position, or gives up and says he cannot do it, his effort counts as one trial. A single trial may involve a number of unsuccessful changes of position in the two cards, but these changes may not consume altogether more than one minute.

V, 6. Three commissions

Procedure. After getting up from the chair and moving with the child to the center of the room, say: *“Now, I want you to do something for me. Here’s a key. I want you to put it on that chair over there; then I want you to shut (or open) that door, and then bring me the box which you see over there* (pointing in turn to the objects

designated). *Do you understand? Be sure to get it right. First, put the key on the chair, then shut (open) the door, then bring me the box* (again pointing). *Go ahead!*” Stress the words *first* and *then* so as to emphasize the order in which the commissions are to be executed.

Give the commissions always in the above order. Do not repeat the instructions again or give any further aid whatever, even by the direction of the gaze. If the child stops or hesitates it is never permissible to say: *“What next?”* Have the self-control to leave the child alone with his task.

Scoring. *All three commissions must be executed and in the proper order.* Failure may result, therefore, either from leaving out one or more of the commands or from changing the order. The former is more often the case.

APPENDIX 3. 6TH GRADE LEARNING OBJECTIVES**Knowledge**

Students will be able to recognize the words for animals.

Students will be able to recognize adjectives to describe certain properties of animals.

Students will be able to recognize the words related to basic properties of cities and countries.

Comprehension

Students will be able to match the words for animals with related pictures / gestures

Students will be able to match the words related to cities and countries with related pictures

Students will be able to name animals using appropriate words.

Students will be able to describe animals / people / cities / countries using adjectives

Students will be able to differentiate between short and long adjectives

Students will be able to associate the comparative forms with short or long adjectives

Application

Students will be able to illustrate animals using adjectives to describe them

Students will be able to illustrate the places where they live using adjectives

Students will be able complete the sentences using correct forms of adjectives in order to compare things (such as cities, countries, animals)

Students will be able to apply the sentence formation rules to make comparisons.

Analysis

Students will be able to compare and contrast their pets (or favourite animals) with their peers'.

Students will be able to state the differences between a city and country using adjectives to make comparisons

Synthesis

Students will be able to formulate sentences explaining the properties of their pet (or favourite animals)

Students will be able to compose a paragraph explaining the place they live.

Evaluation

Students will be able to compare their pets (or favourite animals) with their peers and make comparative sentences to illustrate the differences

Students will be able to evaluate where they live and another place (shown in the picture or that they already know) in terms of various properties such as population, temperature and make comparisons between them

APPENDIX 4. LESSON PLANS FOR THE 6TH GRADERS BASED ON MI ACTIVITIES IN A CONTENT-BASED CONTEXT

LESSON PLAN 1

Class: 6	Lesson: English
Theme: Animals	Time: 40' + 40'
Target Grammar: Adjectives	Date: 03.11.2014

Objectives

The Ss will be able to tell the names of animals in English.

The Ss will be able to use adjectives in order to tell some basic properties of objects around

The Ss will be able to use adjectives in order to tell some basic properties of animals

The Ss will be able to read and understand short sentences that involve adjectives to describe animals

The Ss will be able to write short sentences using adjectives in order to describe animals

Materials

Computer, projector, flashcards, power point presentation on adjectives, word-search puzzle on adjectives

Procedure

1st hour

Activity 1: The Teacher (T) plays a song on animals and she projects a clip on the board (Appendix 1). The names and pictures of animals are shown in the clip. The students (Ss) are already familiar with some common animals. The song is expected to attract their attention to the lesson and remember the names of the animals and learn the names of some more animals. The song is listened twice. (10'). (Musical – rhythmic, visual – spatial)

Activity 2: The T takes out some flashcards on which there are animal pictures (Appendices 2, 3 and 4). She tells the name of the animals and the whole class repeats after her. (5') (Visual – spatial, verbal-linguistic, musical – rhythmic)

Activity 3 : The T divides the classroom into five groups each of which consists of five Ss. She distributes a worksheet to each group. In that activity they are required to match the pictures of animals with their names (Appendix 5). Then she asks the Ss about their favourite animals. She asks them why it is their favourite animal and she tries to encourage the Ss to tell one or two properties of those animals using some basic adjectives they already know. (10') (Interpersonal, visual – spatial, logical – mathematical, verbal-linguistic)

Activity 4: In order to help the Ss to describe the animals, the T projects a power point presentation on the board (Appendices 6 and 7). In that presentation, the adjectives related to the pictures are written. The T shows the presentation twice. First, she doesn't say anything, the Ss just concentrate on the pictures and what is written under them by themselves, then during the second time the Ss repeats the adjectives after the T. (15') (visual – spatial, musical – rhythmic)

2nd Hour

Activity 5: The T divides the classroom into five groups each of which consists of five Ss. One S comes to the board and s/he tries to explain the adjective that the T shows her/him through miming without speaking and his/her group tries to guess the adjective. If they guess the adjective correctly in one minute then they get ten points. (15') (Interpersonal, bodily –kinesthetic)

Activity 6: The T distributes each group a word- search puzzle in which the Ss find ten adjectives through group work (Appendix 8). The group that finds all the adjectives first is applauded. If they cannot find all the adjectives the one that finds the most in five minutes is applauded. Then the puzzle is reflected on the board and Ss come to board and mark the adjectives. (10') (verbal-linguistic, logical – mathematical, interpersonal)

Activity 7: The T divides the classroom into five groups each of which consists of five Ss. Then they play a word game called “hangman”. In that well-known game, a member from each group comes to the board one by one. The T shows an adjective to that group member and the other group members try to guess the adjective by telling letters. If they know it correctly, they get a point. (15')(verbal-linguistic, logical – mathematical, interpersonal)

LESSON PLAN 2

Class: 6	Lesson: English
Theme: Animals	Time: 40'
Target Form: Comparative form of adjectives	Date: 05.11.2014

Objectives

The Ss will be able to use adjectives in order to tell some basic properties of objects around

The Ss will be able to use adjectives in order to tell some basic properties of animals

The Ss will be able to read and understand short sentences that involve adjectives to describe animals

The Ss will be able to write short sentences using adjectives in order to describe animals

The Ss will be able to recognize the comparative form of the adjectives

The Ss will be able to use comparative form in order to compare animals

Materials

Computer, projector, flashcards, power point presentation on comparative form of adjectives, word- scramble worksheet,

Procedure

Activity 1: The T shows the animal pictures again and this time she asks the Ss to describe the animals using adjectives (Appendices 2,3 and 4). During this activity the

worksheet on which the adjectives are written are on the desks of the Ss so that they may get help from those worksheets while describing the animals. (5 ') (visual – spatial, verbal-linguistic)

Activity 2: The T reflects a power point presentation on the board. In that presentation the comparative degree of adjectives are shown through pictures (Appendix 9). The T tries to encourage the Ss to recognize the structural pattern of comparatives by showing the presentation twice or three times.(10') (visual – spatial, verbal-linguistic, logical – mathematical)

Activity 3:The T divides the classroom into five groups each of which consists of five Ss. She distributes word-scramble worksheets to each group (Appendix 10) . The Ss try to find out the word written in comparative form. Then the T reflects the worksheet on the board and one person from each group comes to the board and writes the correct word.(10') (verbal-linguistic, logical – mathematical, interpersonal)

Activity 4: She shows the pictures of two different animals and asks the students to tell adjectives describing those animals and then she stimulates them to compare the animals making comparative sentences. Examples are written on the board .(10') (verbal-linguistic, visual – spatial, logical – mathematical)

Activity 5: Towards the end of the lesson, the T asks the Ss to write about their feelings about the activities of the English lessons of that week. They are asked to write what they like or dislike most, and make suggestions for the following lessons.(5') (Intrapersonal)

LESSON PLAN 3

Class: 6	Lesson: English
Theme: Animals	Time: 40' + 40'
Target Form: Comparative sentences	Date: 10.11.2014

Objectives

- The Ss will be able to recognize the comparative form of the adjectives
- The Ss will be able to use comparative form of the adjectives in order to compare animals
- The Ss will be able to compare and contrast animals and tell differences between animals using comparative sentences.
- The Ss will be able to read and understand comparative sentences on animals
- The Ss will be able to write sentences using comparatives about animals
- The Ss will be able improve their speaking skills
- The Ss will be able to improve their writing skills
- The Ss will be able improve their reading skills

Materials

Computer, projector, flashcards, power point presentation on comparative form of adjectives, word-scramble worksheet, sentence scramble worksheet, true/false exercises worksheet, animals survey worksheet.

Procedure

1st Hour

Activity 1: In order to remind the comparative form, the T shows the power point presentation (Appendix 9) at the beginning of the lesson and asks the students to tell some comparative sentences they have already written in their notebooks. (10') (verbal-linguistic, visual – spatial)

Activity 2: The T shows the animal pictures and wants the Ss to choose their favourite animals. Then she says that the students will work in pairs and they will describe their own favourite animal to his/her pair and make comparative sentences about their and their friends' favourite animal. Then some of the Ss come to the blackboard and shows his/her own favourite animal and his/her friend's favourite animal and makes comparative sentences so that the whole class can hear examples about comparatives. (15') (verbal-linguistic, visual – spatial, interpersonal, bodily – kinesthetic)

Activity 3: The T divides the classroom into five groups each of which consists of five Ss. She distributes worksheets to each group. The Ss are asked to make comparative sentences about the animals using the tips given to them on the worksheets (Appendix 11). Then one member from each group comes to the board and writes the correct form of the sentences on the board. (15') (verbal-linguistic, interpersonal, bodily –kinesthetic)

2nd Hour

Activity 4: The T divides the classroom into five groups each of which consists of five Ss. She distributes a worksheet on which the Ss are required to mark some comparative sentences about animals as true or false (Appendix 12). In the second worksheet, the students are required to give answers to a survey about animals (Appendix 13). Then the T reflects the worksheet on the board and the exercise is done with whole class.(15') (verbal-linguistic, interpersonal, logical – mathematical)

Activity 5: The T distributes another worksheet to the same groups. That worksheet involves scrambled comparative sentences on animals and the Ss are required to put them in order with the other group members (Appendix 14). Then one person from each group comes to the board and writes the correct form of the sentences.(15') (logical – mathematical, interpersonal)

Activity 6: The T gives pictures of two animals to each group. Then she asks the Ss to write at least three comparative sentences about these animals. Then each group will

read their sentences showing the pictures of the animals to the other groups. (10')
(interpersonal, visual – spatial, verbal-linguistic, logical – mathematical)

Assignment: The T asks the Ss to form groups consisting of three-four members. Then they will compose a song using adjectives, comparative form of adjectives and animals. They will sing the song in the classroom in the following lesson. In addition she asks the Ss to bring some objects such as small toys, accessories or clothes so that they will make comparative sentences about those objects in the following lesson.

LESSON PLAN 4

Class: 6	Lesson: English
Theme: Animals and real life objects	Time: 40'
Target Form: Comparative sentences	Date: 12.11.2014

Objectives

The Ss will be able to make sentences using comparative form of the adjectives in order to compare various objects

The Ss will be able to compare and contrast objects and tell differences between objects using comparative sentences.

The Ss will be able improve their speaking skills

The Ss will be able to improve their writing skills

The Ss will be able to use comparatives in order to compose and sing a song

Materials

Realia brought by the Ss to the classroom.

Procedure

Activity 1: The T asks the Ss to take out the objects they have. They share / show their objects to their friends. During that time, the T asks them to try to make up some

sentences describing their objects and comparing them with their friends' objects. (10')
(Natural, interpersonal, visual – spatial, verbal-linguistic)

Then each student comes to the board, makes a comparative sentence about the objects s/he has brought to the classroom and then writes that sentence. The Ss may come to the board in pairs and may compare what they have, as well. (10') (Natural, verbal-linguistic, bodily –kinesthetic)

Activity 2: Each group comes to the board and sings their songs. (15') (Musical-rhythmic, interpersonal)

Activity 3: Towards the end of the lesson, the T asks the Ss to write about their feelings about the activities of the English lessons of that week. They are asked to write what they like or dislike most, and make suggestions for the following lessons.(5') (Intrapersonal)

LESSON PLAN 5

Class: 6	Lesson: English
Theme: Cities and countries	Time: 40' + 40'
Target Form: Comparative sentences	Date: 17.11.2014

Objectives

The Ss will be able to make sentences using comparative form of the adjectives in order to compare cities and countries

The Ss will be able improve their speaking skills

The Ss will be able to improve their writing skills

Materials

Computer, projector, pictures of cities and countries

Procedure

1st Hour

Activity 1: At the beginning of the lesson, the T asks the Ss whether they live in the city center or in the villages. Then she asks them to describe some basic properties of the place they live in using some adjectives. (10') (verbal-linguistic)

Activity 2: The T asks the Ss to look at the picture of a city and a country in their books. The T also shows some other pictures of cities and villages to the Ss (Appendices 15 and 16). She asks them to describe those pictures using adjectives. (15') (verbal-linguistic, visual – spatial)

Activity 3: The T asks the Ss to work in pairs and try to compare cities and countries in the pictures shown to them by the T. The Ss work in pairs and after they have made at least three sentences, they tell their sentences to the whole class. (15') (interpersonal, verbal-linguistic, visual – spatial)

2nd Hour

Activity 4: The T asks the Ss whether they prefer living in a country or in a city. She also asks them why they prefer so. First, the Ss tell their preferences to the whole class. (10') (Intrapersonal, interpersonal, verbal-linguistic)

Activity 5: Then the T says that Ss who have the same preference will form groups of three and they will draw a small picture of their preference and write some sentences describing their pictures. (15') (interpersonal, verbal-linguistic, visual – spatial)

Activity 6: Then two groups that have different preferences come to the board, stick their pictures on the board and try to give reasons for their preferences making comparative sentences. (15') (interpersonal, verbal-linguistic, visual – spatial, logical – mathematical)

Assignment: The T asks the Ss to write sentences comparing a city and a country they have been to and she asks them to try to find pictures or photos of those places and bring them to the class for the next lesson. If they wish, the Ss can draw pictures as well.

LESSON PLAN 6

Class: 6	Lesson: English
Theme: Cities and countries	Time: 40'
Target Form: Comparative sentences	Date: 19.11.2014

Objectives

The Ss will be able to make sentences using comparative form of the adjectives in order to compare cities and countries

The Ss will be able improve their speaking skills

The Ss will be able to improve their writing skills

Materials

Computer, projector, pictures of cities and countries, true / false survey of general knowledge

Procedure

Activity 1: The Ss show the pictures / photos of the cities and countries they have been to and show them to the whole class and tell sentences about those places. (10') (verbal-linguistic, visual – spatial, natural)

Activity 2: The T distributes a worksheet on which there is true / false survey consisting of comparative statements about rivers, mountains, seasons etc. (Appendix 17). The Ss are asked to give answers working in pairs. Then the correct answers are shared with the whole class. (10') (interpersonal, verbal-linguistic, logical – mathematical)

Activity 3: The T tells the names of two cities in Turkey, she also tells an adjective. The Ss try to compare those two cities using the comparative form of the adjective given by the T. (15') (verbal-linguistic, logical – mathematical)

Activity 4: Towards the end of the lesson, the T asks the Ss to write about their feelings about the activities of that lesson. They are asked to write what they like or dislike most, and make suggestions about the lesson. (5') (Intrapersonal)

APPENDIX 5. 9TH GRADE LEARNING OBJECTIVES

Knowledge

Students will be able to recognize the words for daily routines and habitual actions.

Students will be able to recognize frequency adverbs.

Students will be able to recall the words for naming daily routines and habitual actions

Students will be able to recognize rules for expressing daily routines.

Students will be able to state the rules used for talking / writing about daily routines.

Comprehension

Students will be able to predict the correct words for related pictures about daily routines and habitual actions.

Students will be able to match the words for daily routines and habitual actions with related pictures / gestures

Students will be able to describe the daily routines using appropriate words.

Students will be able to describe daily routines using frequency adverbs

Students will be able to associate the verb formations with subject pronouns while explaining daily routines.

Students will be able to differentiate between negative and positive statements about daily life routines.

Application

Students will be able complete the sentences using correct words in order to talk / write about daily routines and habitual actions.

Students will be able to apply the sentence formation rules to explain daily routines.

Students will be able to illustrate their (or someone else's) daily lives through grammatical sentences.

Students will be able to relate verb inflections with particular subject pronouns.

Students will be able to modify sentences to ask questions.

Analysis

Students will be able to connect words for daily routines with related jobs.

Students will be able to compare and contrast their own daily routines with their peers' through grammatically appropriate sentences.

Students will be able to explain daily routines of a person about whom they read a text.

Students will be able to distinguish between daily routines of different people and make sentences to explain about their daily routines.

Students will be able to answer questions about their own (or someone else's) daily routines through writing or talking.

Synthesis

Students will be able to formulate sentences explaining their own (or someone else's) daily routines using appropriate words.

Students will be able to compose a paragraph explaining their own (or someone else's) daily routines using grammatical sentences.

Students will be able to prepare questions to learn about daily routines of other people.

Students will be able to make a plan of their daily lives and talk / write about it using frequency adverbs.

Evaluation

Students will be able to compare their present daily routines with the ones they think they will have in future and they will be able to make sentences explaining the conclusions of these comparisons.

Students will be able to assess their daily lives and their peers' and formulate grammatical sentences / texts to explain their judgments.

APPENDIX 6. LESSON PLANS FOR THE 9TH GRADERS BASED ON MI ACTIVITIES IN A CINTENT-BASED CONTEXT

LESSON PLAN 1

Class: 9	Lesson: English
Theme: Daily Routines	Time: 40' + 40'
Target Grammar: Verbs about daily routines	Date:03.11.2014

Objectives

The Ss will be able to recognize the verbs to explain basic daily routines activities

The Ss will be able to use the related verbs to list their daily routines

The Ss will be able to listen and understand what a person does basically in a typical day

Materials

Computer, projector, power point presentation on daily routines, worksheets for matching exercise, word-search puzzle, crossword puzzle, flashcards

Procedure

1st hour

Activity: At the beginning of the lesson, the T tells that they will talk about their typical days and daily routines. She asks the Ss about their typical days. The Ss can give answers or tell some verbs they know about what they do in a day. Then the T also talks about what she does as a routine. (15') (verbal-linguistic, interpersonal)

Activity: In order to enable the Ss to learn some more verbs about their daily life, the T reflects a power point presentation on which there are pictures and verbs explaining those pictures about daily life activities. The T shows the presentation twice. First, she doesn't say anything, the Ss just concentrate on the pictures and what is written under them by themselves, then during the second time the Ss repeats the

phrases explaining daily routines after the T. (Appendices 1 and 2) (15') (visual – spatial, verbal-linguistic, musical- rhythmic)

Activity: The T divides the classroom into seven groups consisting of five students. She distributes worksheets on which there are pictures of daily routines and phrases about daily life routines. The Ss are asked to match the pictures and the phrases through group work (Appendix 3). Then the worksheets are projected to the board and correct answers are given by the groups. (10') (visual – spatial, verbal-linguistic, interpersonal, logical – mathematical)

2nd Hour

Activity: The T distributes a word-search puzzle with pictures to the groups formed in the previous lesson. First the Ss are expected to match the pictures and the phrases about the daily routines and then they are expected to find these phrases in the puzzle (Appendix 4). Then the worksheets are projected to the board and correct answers are given by the groups. (15') (visual – spatial, verbal-linguistic, interpersonal, logical – mathematical)

Activity: The T distributes a crossword puzzle on which the Ss are required to write the daily routines explained through pictures (Appendix 5) (10') (visual – spatial, verbal-linguistic, interpersonal, logical – mathematical)

Activity: The T divides the classroom into seven groups each of which consists of five Ss. One S comes to the board and s/he tries to explain the word for a daily routine on a picture shown by the T, through miming and his/her group tries to guess the daily routine activity. If they guess the daily routine activity correctly in one minute then they get ten points. (15') (interpersonal, bodily –kinesthetic)

Assignment: The T asks the Ss to bring some realia that can be seen as related to certain daily life activities (such as a comb, an egg, bread, soap, clothes etc) for the next lesson.

LESSON PLAN 2

Class: 9	Lesson: English
Theme: Daily Routines	Time: 40' + 40'
Target Grammar: Simple Present Tense (1st person singular and plural pronouns)	
Date: 04.11.2014	

Objectives

The Ss will be able to listen and understand what a person does basically in a typical day

The Ss will be able to explain their daily routines in a typical day

The Ss will be able to put their daily routines activities in a chronological order and talk about what they do as their daily routines

The Ss will be able to answer questions about their daily routines

The Ss will be able to develop their writing skills

Materials

Computer, projector, power point presentation on daily routines, worksheets for matching exercise, worksheet for scrambled words, flashcards, questionnaire on daily routines

Lesson 3

Activity: The T projects a power point presentation on the board. In the presentations the daily routines of a person are explained through sentences in first person singular and there are pictures related to the sentences. (Appendix 6) (10'). (visual – spatial, verbal-linguistic)

Activity. The T divides the classroom into seven groups each of which consists of five Ss and she distributes a worksheet to each group. The Ss are required to match the phrases and the pictures through group work. (Appendices 7 and 8) (5'). (visual – spatial, verbal-linguistic, interpersonal, logical – mathematical)

Activity: The T distributes another worksheet to each group. The Ss are required to put the scrambled words into correct order to make sentences on daily life routines. Then the correct answers are given by projecting the worksheet onto the board. (Appendix 9) (5'). (visual – spatial, verbal-linguistic, interpersonal, logical – mathematical)

Activity: The T takes some realia from the Ss and asks the Ss to make a sentence about a daily routine related to those realia. (visual – spatial, verbal-linguistic, logical – mathematical, natural)

Activity: The T asks the Ss to walk around and form groups of four or five students in order to explain some daily life routines in a chronological order using their realia. (visual – spatial, verbal-linguistic, logical – mathematical, natural, bodily-kinesthetic)

Lesson 4

Activity: The T shows the pictures of daily activities and she makes some sentences about those daily life activities. She also tries to stimulate the Ss to make sentences about their own daily routines making use of the pictures shown by the T. During that activity the T tries to help the Ss to make sentences in order to explain their daily routines. She gives some examples from her own life and her own daily routines then she asks the Ss to make sentences and writes them on the board. (15') (visual – spatial, verbal-linguistic, interpersonal)

Activity: The T says that they will form a chain made up of sentences about daily routines. They try to follow a chronological order while making sentences. For example, the first student says a sentence such as “I get up at seven o’clock.” Then the second one says “I wash my face.” and so on. (15') (verbal-linguistic, interpersonal, bodily – kinesthetic)

Activity: The T distributes a worksheet on which there is a questionnaire asking questions about their own daily routines. The Ss are required to answer these questions. Then examples of answers to each question are given. (Appendix 10) (10') (verbal-linguistic, intrapersonal)

LESSON PLAN 3

Class: 9	Lesson: English
Theme: Daily Routines	Time: 40' + 40'
Target Grammar: Simple Present Tense (1st person singular) and plural pronouns)	
Date: 06.11.2014	

Objectives

The Ss will be able to explain their daily routines in a typical day

The Ss will be able to prepare a weekly schedule in order to write about their daily routines

The Ss will be able develop their writing skills

The Ss will be able to use frequency adverbs while talking about their daily routines

The Ss will be able to read and understand other people's daily routines

The Ss will be able develop their reading skills

Materials

Computer, projector, worksheets for matching, reading and writing exercises on daily routines, weekly schedule chart, presentation on jobs, flashcards

Lesson 5

Activity: The T distributes a worksheet to the students. They are required to match the sentences written in first person singular with the related pictures. (Appendix 11) (10') (visual – spatial, verbal-linguistic, logical – mathematical)

Activity: The T asks the Ss to fill in the gaps in the next exercise to complete the sentences. Then the correct answers are given for the whole class. (10') (Appendix 11) (verbal-linguistic, logical – mathematical)

Activity: The T and the Ss read a text on the daily routines of a person, this short text is written in the first person singular again. They again do a matching exercise related to that text. (10') (Appendix 11) (verbal-linguistic, logical – mathematical)

Activity: The T asks the Ss to write about their own daily routines making use of the pictures (10') (Appendix 11) (verbal-linguistic, visual – spatial)

Lesson 6

Activity: The T distributes a chart on which there is a weekly schedule and asks the Ss to fill in the chart considering their own daily routines (Appendix 12). The T talks about some of her daily routines. This time she uses frequency adverbs and draws the attraction of the Ss to their use. Then she shows a diagram on frequency adverbs. (Appendix 13) (5') (verbal-linguistic, logical – mathematical, visual – spatial)

Activity: The T requires the Ss to write paragraphs depending on their own weekly schedule and making use of the frequency adverbs. The voluntary Ss are asked to come to the blackboard and read their paragraphs (10'). (verbal-linguistic, logical – mathematical, bodily –kinesthetic)

Activity: The T tells the Ss that they will talk about jobs and their daily lives. The Ss are already familiar with the jobs but in order to remind them, the T shows a presentation on jobs (Appendix 14). (5'). (visual – spatial, musical- rhythmic)

Activity: Then she shows a picture of a job and encourages the Ss to make sentences on their daily routines using 1st person singular as if they have that job. (10'). (visual – spatial, verbal-linguistic)

Activity: Towards the end of the lesson, the T asks the Ss to write their feelings and thoughts about the activities of that lesson. For example they can write what they like the most or the least. She also asks them whether they have any suggestions for the next lessons. (10'). (intrapersonal)

Assignment: The T wants the Ss to imagine that they had a job and then she asks them to write a paragraph about their daily life as if they had that job. She also asks them to use pictures related to their sentences. The next lesson they will read their paragraphs and their classmates will try to guess his / her job. (The Ss who wish to work in pairs to prepare the assignment may work together as well.)

LESSON PLAN 4

Class: 9	Lesson: English
Theme: Daily Routines	Time: 40' + 40'
Target Grammar: Simple Present Tense (3rd person singular) Date: 10.11.2014	

Objectives

- The Ss will be able to read and understand another person's daily routines
- The Ss will be able to write about another person's daily routines
- The Ss will be able to develop their reading skills
- The Ss will be able to talk about daily routines of people from different jobs

Materials

Computer, projector, has a presentation on the daily routines of a "pumpkin", worksheets for matching exercises on daily routines of people from different jobs, a reading text on a person's daily routines

Lesson 7

Activity: The T calls Ss randomly to come to the board and read their paragraphs they have written as their assignments. They will read their paragraphs and their classmates will try to guess his / her job . (15'). (verbal-linguistic, logical – mathematical, bodily –kinesthetic, interpersonal)

Activity: The T says that they will talk about the jobs again, before that she says that she has a presentation on the daily routines of a "pumpkin" (Appendix 15). Through that presentation it is aimed that the Ss are introduced with the usage of present simple tense for 3rd person singular pronouns. The presentation is shown twice. (5') (verbal-linguistic, visual – spatial, musical- rhythmic)

Activity: The T divides the classroom into seven groups each of which consists of five Ss and she distributes a worksheet to each group (Appendix 16). The Ss are required to complete the sentences about the daily routines of people with different occupations. (10'). (verbal-linguistic, logical – mathematical)

Activity: After completing the sentences, the Ss are required to match the sentences and pictures related to the jobs. (10'). (verbal-linguistic, logical – mathematical, visual – spatial)

Lesson 8

Activity: The Ss read a text on a person's daily routines and then they try to complete the sentences with the correct form of the verbs. (Appendix 17). After they finish, the text is read and the correct answers are shared with the whole class. (20'). (verbal-linguistic, logical – mathematical)

Activity: The T divides the classroom into seven groups each of which consists of five Ss. The T calls a student from each group. She shows a picture representing a job and the student at the board tries to make sentences about the daily routine of the person in the picture in two minutes. If his / her group guesses the job in the picture correctly, they get ten points. (20'). (verbal-linguistic, logical – mathematical, bodily –kinesthetic, interpersonal)

LESSON PLAN 5

Class: 9	Lesson: English
Theme: Daily Routines	Time: 40' + 40'
Target Grammar: Simple Present Tense	Date: 11.11.2014

Objectives

The Ss will be able to ask question about the daily routines of another person in order to prepare a weekly schedule for that person

The Ss will be able to talk about daily routines of another person (his/her friend) using frequency adverbs

The Ss will be able to read and understand another person's daily routines

The Ss will be able to write about another person's daily routines

The Ss will be able to recognize the difference in the form of the verbs for different subject pronouns

Materials

Computer, projector, a subject-verb agreement game, a worksheet on the daily routines of a person and his family, small pieces of paper each of which has a sentence about a daily routine activity

Lesson 9

Activity: The T requires the Ss to prepare a weekly schedule about their peer's routines. She wants them to work in pairs and fill in the chart asking questions about the daily routines of their partners. (10'). (verbal-linguistic, logical – mathematical, interpersonal)

Activity: Then they are required to write a paragraph about the daily routines of their partner using frequency adverbs. The voluntary Ss come to the board and read their paragraphs. (10'). (verbal-linguistic, logical – mathematical, bodily –kinesthetic)

Activity: In order to help the Ss to practise the correct form of the verbs a subject-verb agreement game is played (<http://www.eslgamesplus.com/subject-verb-agreement-game/>) (20'). (verbal-linguistic, logical – mathematical, interpersonal, visual – spatial, musical- rhythmic)

Lesson 10

Activity: The T divides the classroom into seven groups each of which consists of five Ss. She distributes a worksheet on the daily routines of a person and his family (Appendix 18). She asks the Ss to fill in the gaps using the correct verbs and correct forms of the verbs then the correct answers are shared (20'). (verbal-linguistic, logical – mathematical, interpersonal)

Activity: The groups remain the same. The T gives each S a paper on which a sentence is written about the daily lives of people. The group members are expected to read each other's papers and put the sentences into a chronological order. (20'). (verbal-linguistic, logical – mathematical, interpersonal, bodily –kinesthetic)

Assignment: The T asks the Ss to prepare a small project. She asks them to write their daily routines for three periods of their life. These periods are when they were at the primary school, now and in the future when they have a job. The T reminds them to use present tense for all periods as they will imagine themselves as if they are already at that time. She asks them to make use of pictures or photos as well.

LESSON PLAN 6

Class: 9	Lesson: English
Theme: Daily Routines	Time: 40' + 40'
Target Grammar: Simple Present Tense	Date: 13.11.2014

Objectives

The Ss will be able to read and understand another person's daily routines

The Ss will be able to write about another person's daily routines

The Ss will be able to compare and contrast their own and his/her friend's daily routines

The Ss will be able to write a paragraph explaining the differences and similarities between their own and his/her friend's daily routines

Materials

Computer, projector, a subject-verb agreement game, a worksheet on daily routines of various people, a worksheet for matching the pictures and the sentences on daily routines

Lesson 11

Activity: The T divides the classroom into seven groups each of which consists of five Ss. The group members exchange their assignments with the other group members so that the Ss can share their assignments with the whole class and also see different examples about the topic. (10'). (verbal-linguistic, interpersonal, bodily –kinesthetic)

Activity: The T divides the classroom into seven groups each of which consists of five Ss. She wants the Ss to ask each other what they do at a certain hour. Then they are required to compare their own daily routines with their friend's daily routines and write a paragraph explaining the differences and similarities between their daily routines. (20'). (verbal-linguistic, interpersonal)

Activity: In order to help the Ss to be able to use the correct form of the verbs a subject-verb agreement game is played game <http://www.eslgamesplus.com/present-simple-verbs-game/> (10'). (verbal-linguistic, logical – mathematical, interpersonal, visual – spatial, musical- rhythmic)

Lesson 12

Activity: The T divides the classroom into seven groups each of which consists of five Ss. She distributes a worksheet requiring the Ss to fill the gaps with the correct form of the verbs on daily routines. (Appendix 19). The Ss will do that exercise with other group members (15'). (verbal-linguistic, logical – mathematical, interpersonal)

Activity: Then the T asks the Ss to match the pictures and the sentences on daily routines then the correct answers are projected on to the board. (15'). (verbal-linguistic, visual-spatial, logical – mathematical, interpersonal)

Activity: Towards the end of the lesson, the T asks the Ss to write their feelings and thoughts about the activities of that lesson. For example they can write what they like the most or the least. She also asks them whether they have any suggestions for the next lessons. (10'). (intrapersonal)

APPENDIX 7. GRAMMAR ACHIEVEMENT TEST FOR THE 9TH GRADERS

Part A: Circle the correct answer

1. I usually _____ a book in the evening because I _____ watch TV in the evening.
a) read / never b) read / always c) reads / never d) reads / always
2. Mary _____ her teeth three times a day.
a) is brushing b) brushes c) brush d) brushes
3. Aycan _____ eggs for breakfast because she doesn't like eggs.
a) eats b) doesn't eat c) doesn't eats d) don't eat
4. Tom _____ his lunch at half past twelve.
a) has b) is having c) haves d) don't have
5. We usually _____ television at home in the evenings.
a) watching b) don't watching c) watch d) watches
6. Tina: _____ do you go to the theatre?
Bob: _____ a month.
a) How often / twice b) How / by c) Where / in d) What time / at
7. We _____ dinner at home at the weekends, because we go to a restaurant for dinner at the weekends.
a) don't have b) have c) doesn't have d) has
8. _____ your sister wash her hair every day?
a) do b) does c) is d) are
9. I _____ a newspaper every morning.
a) reading b) reads c) read d) doesn't read
10. I _____ fish every day. I _____ fish only at the weekends.
a) doesn't cook / cooks b) doesn't cook / doesn't cook
c) cooks / cooks d) don't cook / cook
11. The school is closed on Sundays, so the students _____ to school on Sundays.
a) go b) don't go c) goes d) doesn't go

12. I _____ horror films, because I don't like them.
a) watch b) watches c) doesn't watch d) don't watch
13. We _____ on a holiday in winters, because we have school, but we _____ on a holiday in summers.
a) go / go b) don't go / don't go c) doesn't go / goes d) don't go / go
14. My friends _____ after five o'clock.
a) working b) works c) don't work d) doesn't works
15. Do you and your friends take a bus to school every morning?

a) Yes, he does. b) No, he does. c) Yes, we do. d) No, they don't.
16. My daughter usually _____ a book before bedtime.
a) don't read b) reads c) don't reads d) doesn't reads
17. _____ your parents _____ to the cinema every weekend?
No, they _____.
a) does / go / go b) Do / go / don't
c) Does / go / don't d) Does / go / doesn't
18. _____ you _____ tea for breakfast?
a) are / has b) do / have c) does / has d) is / have
19. Mary and Jack _____ to the theatre once a month.
a) goes b) go c) doesn't go d) don't goes
20. I like classical music, but my brother _____ it.
a) likes b) doesn't like c) like d) don't like
21. Mary _____ late at the weekends, because she _____ to school.
a) gets up / doesn't go b) doesn't get up / doesn't goes
c) get up / go d) gets up / go
22. Students _____ school uniforms at school.
a) wear b) doesn't wear c) wears d) are wear
23. _____ Tom and Tim _____ to school every day?
a) does / go b) do / go c) are / goes d) is / goes
24. _____ Meltem _____ lunch at school?
a) does / have b) is / have c) do / has d) are / have

25. _____ your mother _____ everyday?
 a) does / cook b) do / cook c) does / cooks d) do / cooks
26. John: Do you often read books?
 Tom: _____.
 a) Yes, I do. b) Yes, she does c) Yes, I'm d) No, I'm not
27. Mary: Does your brother play football every day?
 Jane: _____.
 a) No, he don't b) No, he isn't c) Yes, he does d) Yes, he is
28. Ann: Do your friends often visit you?
 Terry: _____.
 a) Yes, they do b) Yes, he does c) No, she doesn't d) No, I don't

Answer the 29th and 30th questions according to the table.

	Monday	Tuesday	Wednesday	Thursday	Friday
Listen to music	✓	✓	✓	-	-
Read a book	✓	✓	✓	✓	✓
Have breakfast	-	-	-	-	-
Have lunch	✓	✓	✓	✓	-

29. I _____ read a book and I _____ listen to music in weekdays.
 a) never / often b) always / sometimes c) always / never d) often / always
30. I _____ have breakfast, I _____ have lunch.
 a) never / usually b) always / often c) never / always d) usually / often

Part B: Match the questions with appropriate answers.




- Does your father read a book or a newspaper every day? _____
- Do you go to school on foot? _____
- How often do you visit your grandparents? _____
- What do you do in the evenings? _____
- How does your sister go to school? _____
- What time do you go to bed? _____
- Why does your brother get up early on Mondays? _____
- Does Mary clean the house every day? _____
- Where do you do your homework? _____
- How often does Ali go to a football match? _____

- a. She goes by bus
- b. Because, he goes to school.
- c. I do it at home.
- d. Yes, I do.
- e. He goes once a month.
- f. I watch TV and read a book.
- g. At ten o'clock.
- h. Yes, she does.
- i. He reads a newspaper.
- j. Three times a month.




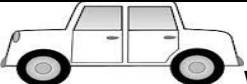
APPENDIX 8. GRAMMAR ACHIEVEMENT TEST FOR THE 6TH GRADERS

Circle the correct answer.
Answer the questions 1 - 7 according to the table below.

	 John	 Tom	 Mary
Age	12 years old	15 years old	10 years old
Height	1.45 cm	1.40 cm	1.35 cm
Weight	35 kg	45 kg	30 kg



- John is _____ than Tom.
a) younger b) older c) young d) more young
- Tom is _____ than Mary.
a) old b) older c) more older d) more old
- John is _____ Tom.
a) shorter than b) more short than c) taller than d) more taller than
- Mary is _____ John.
a) taller than b) more taller than c) tall than d) shorter than
- Mary is _____ than John.
a) weaker b) fatter c) weak d) fat
- Tom is _____ than John.
a) thinner b) more thin c) more fat d) fatter
- A cat is _____ a dog.
a) bigger than b) smaller than c) more bigger than d) more smaller than

Answer the questions 8-12 according to the table below

 Black car	 White car
Speed: 150 km/h	100 km/h
Comfort: *****	Comfort: ***
Price: 50.000 TL	Price: 25.000 TL

8. Black car is _____ white car.
a) more fast than b) faster than c) fast than d) faster
9. White car is _____ than black car.
a) slow b) slower c) more slower d) more slow
10. Black car is _____ white car.
a) more comfortabler than b) more comfortable than
c) more comfortable d) comfortabler than
11. White car is _____ than black car.
a) cheaper b) more cheap c) more cheaper d) cheap
12. Black car is _____ white car.
a) expensiver than b) more expensiver
c) more expensive d) more expensive than
13. Which sentence is correct?
Mount Ağrı: 5137 m Mount Nemrut: 2948 m
- a) Mount Ağrı is higher than Mount Nemrut.
b) Mount Nemrut is higher than Mount Ağrı.
c) Mount Ağrı is more higher than Mount Nemrut.
d) Mount Ağrı is more high than Mount Nemrut.
14. Eating fruit is _____ eating junk food.
a) more healthier than b) healthier than c) healthy d) more healthy
15. An elephant is _____ than a mouse.
a) bigger b) smaller c) more big d) more small
16. Turkish is _____ than Maths.
a) easy b) easier c) more easy d) more easier

Answer the questions 17 - 20 according to the table.

 Ardahan	5.035.51 km ²	112.721 people	- 15 °C
 İzmir	11.906.85 km ²	4.005.459 people	+ 25 °C






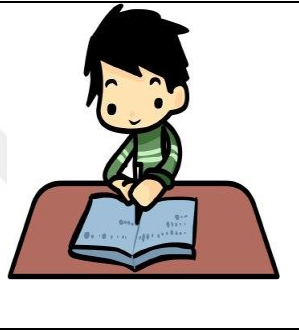



17. Which sentence is correct?
a) Ardahan is larger than İzmir. b) Ardahan is warmer than İzmir.
c) İzmir is larger than Ardahan. d) İzmir is colder than Ardahan.
18. İzmir is _____ than Ardahan.
a) colder b) more cold c) more crowded d) crowder
19. İzmir is _____ than Ardahan.
a) noisier b) quieter c) more noisy d) more quiet
20. Ardahan is _____ İzmir.
a) colder than b) cold than c) more cold than d) more colder than











APPENDIX 9. VOCABULARY TEST FOR THE 9TH GRADERS

Vocabulary Test on Daily Routines for the 9th Graders

A. Match the pictures with the correct vocabulary.

			
<p>1. a. clean the house b. have dinner c. have lunch d. cook</p>	<p>2. a. do the washing up b. vacuum the house c. do the laundry d. wash the dishes</p>	<p>3. a. wash face b. have a bath c. brush teeth d. brush your hair</p>	<p>4. a. get shaved b. have a shower c. do the washing up d. wash the clothes</p>
			
<p>5. a. have breakfast b. have dinner c. have lunch d. have junk food</p>	<p>6. a. wake up b. go to bed c. sleep d. get up</p>	<p>7. a. take a taxi b. get on the bus c. get off the bus d. drive a bus</p>	<p>8. a. do homework b. give homework c. do housework d. make homework</p>
			
<p>9. a. shopping centre b. do shopping c. make shopping d. sell things</p>	<p>10. a. get dressed b. wash face c. get shaved d. get washed</p>	<p>11. a. cycling b. walk slowly c. go to the gym d. go jogging</p>	<p>12. a. wash the clothes b. do the laundry c. do the washing up d. wash your hands</p>

			
13. a. wash your face b. do the washing up c. wash your hands d. wash the clothes	14. a. do the washing up b. do the laundry c. wash the dishes d. clean the house	15. a. ride a horse b. get on a bus c. cycle d. repair a bike	16. a. do the washing up b. clean the house c. wash the dishes d. vacuum the house
			
17. a. iron the clothes b. wash the clothes c. dry the clothes d. put on the clothes	18. a. clean the house b. take the trash out c. take a shower d. clean the dishes	19. a. walk in the garden b. clean the garden c. water the garden d. wash the garden	20. a. run with the dog b. play with the dog c. feed the dog d. take the dog for a walk

B. Circle the correct answer








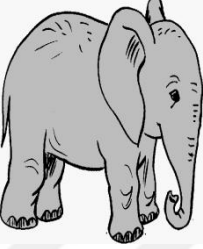









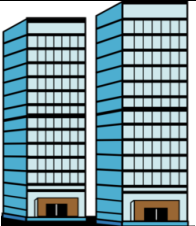
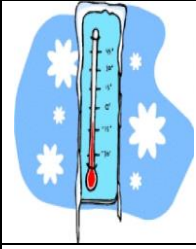
- Mr. and Mrs Maddox usually _____ at the weekend. They buy everything they need.
a) go shopping b) go to the cinema c) go jogging d) go running
- Peter and John are students. They _____ the school bus at 8:15 every morning.
a) drive b) get on c) get off d) run on
- I _____ my school uniform before breakfast.
a) get on b) wear c) have a shower d) put off
- My friends _____ in the school canteen at 12.00 every day. They usually eat a hamburger.
a) have lunch b) have dinner c) have breakfast d) eat dinner

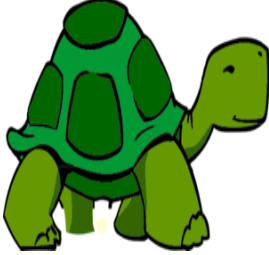




5. I always _____ early in the morning because I sleep early.
a) wake up b) go to bed c) sleep d) get off
6. I _____ every day because I don't have a car or a bike and my school isn't near my house.
a) drive to school b) ride a bike to go to school
c) take the bus to school d) go to school on foot
7. We are students and we go to school on weekdays. We _____ from 9:00 in the morning to 15:00 in the afternoon.
a) have classes b) do homework c) teach English d) watch TV
8. I _____ home to go to work at 8.00 o'clock after breakfast.
a) go b) leave c) arrive d) get
9. John _____ with his family at 19.00 after he comes from school.
a) has breakfast b) has lunch c) has dinner d) has a bath
10. Mr. Mathew is very healthy and fit because he often _____ .
a) drives a car b) has meal c) sleeps d) goes to the gym
11. John: What do you do _____ ?
Tom: I go jogging or swimming
a) at work b) at home c) in your classroom d) in your free time
12. My mother gets up early and _____ for us before we go to school.
a) prepares breakfast b) cooks dinner
c) takes the dog for a walk d) listens to music
13. Mary _____ at 17.00 after work.
a) gets up b) leaves home c) gets home d) gets to work
14. I can _____ because my school is near my house and I don't spend any money.
a) take the underground to go to school b) take a taxi to go to school
c) take the bus to go to school d) go to school on foot
15. I _____ at the weekends, for example laundry, washing up, cleaning, vacuuming, cooking...
a) do homework b) do exercises c) do shopping d) do housework

16. The children _____ after they play in the garden, because they get very dirty.
a) brush their teeth b) take a bath c) clean the house d) wash the dishes
17. Michael is very busy, his work _____ at 7.30 in the morning and _____ at 20.00 in the evening.
a) gets on / gets off b) starts / finishes b) arrives / leaves d) goes / comes
18. I _____ after I come home from the school, because I'm very tired.
a) do housework b) have a rest c) do exercises d) clean the house
19. I _____ early because I get up early to go to school in the mornings.
a) have dinner b) read a book c) go to bed d) go to the gym
20. Mrs. Smith _____ because the dishes are very dirty.
a) does the laundry b) does the washing up
c) waters the garden d) irons the clothes

APPENDIX 10. VOCABULARY TEST FOR THE 6TH GRADERS

6th Grades Vocabulary Test

				
1. a) tall b) small c) high d) large	2. a) quiet b) beautiful c) noisy d) funny	3. a) thin b) fat c) small d) tall	4. a) young b) old c) fast d) slow	5. a) city b) building c) crowded d) country
				
6. a) noisy b) loud c) quiet d) easy	7. a) short b) tall c) long d) small	8. a) thin b) small c) weak d) big	9. a) dirty b) expensive c) cheap d) healthy	10. a) crowded b) quiet c) noisy d) small
	$2 + 2 = 4$			
11. a) river b) sea c) mountain d) lake	12. a) small b) exciting c) easy d) difficult	13. a) fast b) boring c) expensive d) cheap	14. a) hardworking b) difficult c) expensive d) boring	15. a) boring b) exciting c) adventure d) fast
				
16. a) young b) tall c) old d) fat	17. a) fat b) high c) short d) tall	18. a) dirty b) clean c) fair d) dark	19. a) house b) skyscraper c) building d) school	20. a) cold b) warm c) hot d) shiny

				
<p>21. a) clean b) dirty c) slow d) fast</p>	<p>22. a) big b) fat c) small d) tall</p>	<p>23. a) healthy food b) junk food c) fruits d) vegetables</p>	<p>24. a) exciting b) funny c) difficult d) easy</p>	<p>25. a) mountain b) river c) sea d) lake</p>



APPENDIX 11. READING COMPREHENSION TEST FOR 9TH GRADERS

MY DAILY ROUTINE

My name's Julia, and I am 27 years old. I live in London but I'm German. I live with my friend and we are very happy. I work in a bank and I love my job.

From Monday to Friday, my day starts very early. I always get up at 6:30 and I have a 20-minute shower. Then, I get dressed and comb my hair. At 07:00 a.m I have breakfast, I usually have coffee and cereal. Then, I brush my teeth. After that, I take the bus to go to work. I work from 08.30 a.m to 5.00 pm.

At 10:00 a.m., I sometimes have a snack. At 12:00 I usually have lunch at the office with my colleagues. They are wonderful people who have a good sense of humor, and they are good friends too. At 3:30 I have a snack again, I usually have some tea and biscuits.

On Monday, Tuesday and Wednesday I go to the gym after work. When I get home, I have a shower again, I prepare dinner and I watch TV for a while. I like to go to bed as soon as possible, around 9:30.

Thursday is different because I don't go to the gym. I go out with Mary every Thursday. We sometimes go to the cinema or we go out for dinner and to have a drink.

My friend's name is Mary, she is 31 years old, and she's an architect. She gets up at 8.00 a.m and she doesn't have breakfast at home. She goes to work by bus. She has her breakfast at work and she usually has a hamburger and a cup of tea for breakfast. She starts working at 08.30 and her work finishes at 6.00 p.m.

Her family is from Spain. **She** has two brothers and no sisters. We have been a friends for six years. She likes cooking but she doesn't like cleaning the house so we share the housework and help each other.

On Friday nights I always go out with my friends, we sometimes go to a restaurant and sometimes we meet at a friend's house but I can't get home late because I have to get up early on Saturday to clean the house.

At the weekends, **we** usually do housework with my friend. I do the laundry, clean the house, wash the dishes and Mary waters the garden, irons the clothes and cooks dinner for us. We often go shopping and have a rest at the weekends. We sometimes go jogging, too.

ACTIVITIES**1. Read the sentences and tick True or False:**

1. Julia is English. True _____ False _____
2. Julia lives alone. True _____ False _____
3. In the morning, Julia brushes her teeth and after that, she has breakfast. True _____
False _____
4. Julia goes to the gym everyday. True _____ False _____
5. Julia likes going to bed late. True _____ False _____
6. Mary eats a hamburger and drinks tea for breakfast at work. True _____
False _____
7. Julia and Mary go out on Thursday nights. True _____ False _____
8. Mary works until 6.00 p.m. True _____ False _____
9. Mary doesn't do any housework. True _____
False _____
10. Julia goes home very late on Friday. True _____ False _____

2. Answer the questions about the text

1. What does Julia usually have for breakfast?

2. Who does Julia have lunch with?

3. How often does Julia go to the gym?

4. What is Julia's friend's job?

5. Where does Mary have breakfast?

6. What time does Mary get up in the morning?

7. **"She"** in the 6th paragraph refers to _____.
a) Mary b) Julia c) Mary and Julia d) Mary's sister
8. **"we"** in the 8th paragraph refers to _____.
a) Julia's friends b) Mary and Julia c) Mary's family d) Julia

9. Which housework does Julia do at the weekend?

—.

10. Which housework does Mary do at the weekend?

—.

3. Fill in the gaps according to the text.

1. Julia gets up at _____ on Mondays.
2. Julia starts working at _____ .
3. Julia goes to the gym on _____ .
4. Mary goes to work by _____.
5. Mary doesn't like _____.

APPENDIX 12. READING COMPREHENSION TEST FOR THE 6TH GRADERS

A COUNTRY AND A CITY

Teresa and Judy are good friends, but they live in different places. Teresa lives in a country. Its name is Flower Country. Judy lives in a city. Its name is Salzburg. They sometimes visit each other.

Teresa and Judy like Flower country very much. Because it is a small, nice and relaxing place and it is only 1.200 km². There are only 1000 people in this country. There aren't a lot of cars, people use bicycles so it is a quiet and clean place. There are a lot of birds, cows, dogs and cats. The houses are not very high. There are two mountains (1900 m and 2000 m) and a river (100 km). Teresa and Judy likes going near that river and watch it. Summers are warm in Flower country. Average summer temperature is 25 °C. But winters are very cold, because average winter temperature is – 10 °C. There are a lot of trees in Flower country and fruit and vegetables are very cheap and people eat a lot of fruit and vegetables, they don't like eating junk food.

Salzburg is a big city. It is not similar to Flower city. There are a lot of cars and people. 150.000 people live in Salzburg. Salzburg has an area of 65.269 km². There are a lot of skyscrapers and apartment buildings. There is also a mountain, it is 1800 m. The river in Salzburg is 225 km. Summers in Salzburg are around 20 °C and average winter temperature is – 4 °C. People live fast in Salzburg, they use cars and they often eat junk food as they don't have much time.

For Teresa, Salzburg is very interesting and exciting city, but for Judy it is not. Judy thinks Flower country is a lovely place and Salzburg is a noisy place.

Read the text and answer the questions according to the text.

“True” or “false”?

1. Judy and Teresa like Flower country. _____
2. Teresa doesn't know Salzburg. _____
3. There are a lot of trees in Teresa's country. _____
4. Judy's city is crowded. _____
5. There is a mountain in Flower city. _____
6. Flower country is a small country. _____
7. There are high buildings in Salzburg. _____
8. For Teresa, Salzburg is an exciting city. _____

9. Judy thinks Salzburg is an interesting city. _____
10. People in Flower country don't like eating junk food. _____
11. People in Salzburg eat junk food. _____
12. Winters in Flower city are cold. _____
13. There are a lot of cars in Flower country. _____
14. A lot of dogs, cats live in Flower country. _____
15. There are two mountains in Salzburg. _____

Circle the correct answer.




1. Flower country is _____ than Salzburg.
a) smaller b) larger c) bigger d) dirtier
2. Sazlburg is _____ than Flower city.
a) cheaper b) more crowded c) smaller d) more relaxing
3. The river in Salzburg is _____ than the river in Flower city.
a) smaller b) cleaner c) higher d) longer
4. The houses in Flower city _____ than the houses in Salzburg.
a) are higher b) aren't higher c) are longer d) aren't longer
5. Winters in Flower city are _____ than the winters in Salzburg.
a) warmer b) hotter c) more humid d) colder
6. Flower city is _____ than Salzburg.
a) quiter b) dirtier c) more expensive d) more interesting
7. People in Flower country likes eating _____
a) junk food b) healthy food c) fast food d) expensive food
8. Salzburg has got _____ and _____ .
a) two mountains / two rivers b) a mountain / a river
c) a mountain / two rivers d) two mountains / a river



9. For Judy, Salzburg is _____ city.
a) an interesting b) an exciting c) a lovely d) a noisy
10. Teresa _____ .
a) doesn't like Flower country b) doesn't like Salzburg
c) likes Flower county d) hates Salzburg



APPENDIX 14. WRITING TEST FOR THE 6TH GRADERS

6th Grades Writing
Look at the pictures and compare them

	 John	 Tom	 Mary
Age	12 years old	15 years old	10 years old
Height	1.45 cm	1.40 cm	1.35 cm
Weight	35 kg	45 kg	30 kg

 Village Flower	 Village Snow
15 °C	-10 °C
1000 m ²	2000 m ²
250 people	500 people

APPENDIX 15. İNGİLİZCEYE YÖNELİK TUTUM ÖLÇEĞİ

	Tümtüyle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Hiç Katılmıyorum
1. İngilizce çalışmayı seviyorum.	A	B	C	D	E
2. Ödevleri severek yapıyorum	A	B	C	D	E
3. Boş zamanlarımda İngilizce okumaktan hoşlanırım.	A	B	C	D	E
4. İngilizce öğrenmek sıkıcı bir uğraştır.	A	B	C	D	E
5. İngilizce derslerinde mutlu oluyorum.	A	B	C	D	E
6. İngilizce çalışmaya başlayınca kendimi iyi hissetmiyorum.	A	B	C	D	E
7. İngilizce çalışırken zaman su gibi akıyor.	A	B	C	D	E
8. İngilizce öğrenmeyi başaramayacağımı düşünüyorum.	A	B	C	D	E
9. İngilizce yerine Türkçe okumayı tercih ederim.	A	B	C	D	E
10. İngilizce okuduklarımı Türkçe'ye çevirmeden anlayamıyorum.	A	B	C	D	E
11. İngilizce dersinde zaman geçmek bilmiyor.	A	B	C	D	E
12. İngilizce öğrenmek bana zor gelmiyor.	A	B	C	D	E
13. Duyduklarımı Türkçe'ye çevirmeden anlayabiliyorum.	A	B	C	D	E
14. İngilizce ile ilgili konuşmalar beni sıkıyor.	A	B	C	D	E
15. İngilizce çalışmaya başladığımda kendimi gergin hissediyorum.	A	B	C	D	E
16. İngilizce derslerindeki araları dört gözle bekliyorum.	A	B	C	D	E
17. İngilizce çalışmaktansa daha eğlenceli bir şey yapmayı tercih ederim.	A	B	C	D	E

Kişisel bilgiler:

Sınıfınız: _____ Yaşınız: _____

Annenizin öğrenim düzeyi: _____ Annenizin mesleği: _____

Babanızın öğrenim düzeyi: _____ Babanızın mesleği: _____

Kaldığınız yer: Öğrenci yurdu _____, Ailenizin yanı: _____

Okul dışında İngilizce öğrenmek için gittiğiniz bir yer var mı (özel ders, kurs vs.)? Varsa neresi olduğunu belirtiniz. _____

İngilizce öğrenmeniz için evde size yardımcı olabilecek biri / birileri var mı? Varsa kim olduğunu ve öğrenim düzeyini belirtiniz.

APPENDIX 16. INTERVIEW QUESTIONS FOR STUDENTS

- 1-) Şimdiye kadar işlediğiniz İngilizce derslerinin işleniş şekliyle son iki haftadır işlediğiniz İngilizce derslerini karşılaştırdığınızda ne gibi farklar veya benzerlikler görüyorsunuz?
- 2-) İngilizce dersinin son iki haftadaki gibi işlenilmesinin konuyu öğrenmenize ne gibi etkileri olduğunu düşünüyorsunuz?
- a. İngilizce dersinin son iki haftadaki gibi işlenilmesinin İngilizce dilbilgisi kurallarını öğrenmenize ne gibi etkileri olduğunu düşünüyorsunuz?
- b. İngilizce dersinin son iki haftadaki gibi işlenilmesinin İngilizce kelimeleri öğrenmenize ne gibi etkileri olduğunu düşünüyorsunuz?
- c. İngilizce dersinin son iki haftadaki gibi işlenilmesinin İngilizce olarak okuduğunuz metinleri anlayıp anlamamanız üzerinde ne gibi etkileri olduğunu düşünüyorsunuz?
- d. İngilizce dersinin son iki haftadaki gibi işlenilmesinin İngilizce olarak bir cümle veya bir paragraf, diyalog vs yazmanız üzerinde ne gibi etkileri olduğunu düşünüyorsunuz?
- 3-) Son iki haftada işlenen İngilizce derslerinde yapılan etkinliklerden en çok hangileri hoşunuza gitti?
- a. Nedenlerini açıklar mısınız?
- 4-) Son iki haftada işlenen İngilizce derslerinde keşke olmasaydı dediğiniz şeyler var mıdır?
- a. Eğer varsa neler olduğunu izah edebilir misiniz?
- b. Nedenlerini açıklayabilir misiniz?
- 5-) Son iki haftada işlenen İngilizce derslerinde derse karşı olan duygularınızı, düşüncelerinizi anlatabilir misiniz?
- 6-) Eklemek istediğiniz ya da açıklama yapmak başka hususlar varsa belirtir misiniz?

APPENDIX 17. INTERVIEW QUESTIONS FOR TEACHERS

1. Çoklu zeka etkinliklerine dayalı olarak işlenen derslerin öğrencilerin İngilizce derslerine karşı olan tutumlarında etkileri olduğunu düşünüyor musunuz.

1.a) Eğer etkisi olduğunu düşünüyorsanız, ne tür etkileri olduğunu birkaç örnekle açıklayabilir misiniz?

2. İngilizce derslerini çoklu zeka etkinliklerine dayalı olarak işlemenin sizin duygu, düşünce ve tutumlarınız üzerinde herhangi bir etkisi oldu mu?

2.a) Eğer olduysa, ne tür etkileri olduğunu birkaç örnekle açıklayabilir misiniz?

3. Bundan sonraki İngilizce derslerinde çoklu zeka etkinliklerine yer vermeyi düşünüyor musunuz?

3.a) Eğer yer vermeyi düşünüyorsanız, en çok hangi etkinlikleri tercih edersiniz?

3.b) Bu etkinlikleri tercih etmenizin nedenlerini belirtebilir misiniz?

3.c) Eğer çoklu zeka etkinliklerine yer vermeyi düşünmüyorsanız, nedenlerini açıklar mısınız?

4. Çoklu zeka etkinliklerini İngilizce derslerinde uygulama sırasında karşılaştığınız kolaylık ve zorluklardan söz edebilir misiniz?

5. Çoklu zeka etkinliklerinin İngilizce derslerinde uygulanabilmesi için neler yapılması gerektiği ile ilgili ne gibi önerilerde bulunabilirsiniz?

6. Eklemek istediğiniz veya açıklamak istediğiniz başka hususlar varsa lütfen belirtir misiniz?

APPENDIX 18. PROTOCOL FOR PARTICIPATING IN THE RESEARCH STUDY

ÇALIŞMAYA KATILIM PROTOKOLÜ

Çalışmanın Başlığı: Konu-odaklı öğretim ortamında uygulanan çoklu zeka etkinliklerinin İngilizce dilbilgisi, kelime, yazma ve okuduğunu anlama ile öğrencilerin ve öğretmenlerin tutumlarına etkileri

Araştırmacı : Zennure ELGÜN GÜNDÜZ
İngiliz Dili Eğitimi Bölümü
Eğitim Bilimleri Fakültesi, Atatürk Üniversitesi
e.mail: zennureelgungunduz@ardahan.edu.tr

Tez Danışmanı: Yrd. Doç. Dr. İ. Doğan ÜNAL
İngiliz Dili Eğitimi Bölümü
Kazım Karabekir Eğitim Fakültesi, Atatürk Üniversitesi
e-posta: idoğanunal@atauni.edu.tr

Bu formda, yapılacak olan çalışma hakkında bilgiler bulunmaktadır. Sizin bu çalışmaya katılımınız tamamen gönüllülük esasına dayalıdır.

Söz konusu çalışma, Türkiye’de İngilizce öğretiminde, konu-odaklı öğretim ortamında uygulanan çoklu zeka etkinliklerinin öğrencilerin İngilizce dilbilgisi, kelime bilgisi, yazma ve okuduğunu anlama becerileri üzerine ne gibi etkileri olduğunu araştırmayı amaçlamaktadır. Bu çalışma aynı zamanda öğrencilerin / öğretmenlerin konu-odaklı öğretim ortamında uygulanan çoklu zeka etkinliklerine karşı tutumlarının ne şekilde olduğunu araştırmayı hedeflemektedir.

Bu çalışmaya katılmanız takdirde, işlemekte olduğunuz İngilizce derslerindeki konularla ve ünitelerle uyumlu bir şekilde hazırlanmış olan dilbilgisi, kelime, yazma ve okuduğunu anlama testlerine katılmanız, bir tutum anketi doldurmanız ve 10-15 dk sürecek olan bir mülakata katılmanız gerekecektir.

Çalışmaya katılmadan önce ve çalışma sırasında herhangi bir sorunuz varsa sorabilirsiniz. Gizliliğin sağlanması açısından isimleriniz ve kurumlarınızın isimleri gizli tutulacaktır.

Çalışmaya katılım ile ilgili herhangi bir risk bulunmamaktadır. İstedığınız takdirde çalışmanın sonuçları sizlerle de paylaşılacaktır.

Herhangi bir sorunuz varsa, okula yaptığı ziyaretler sırasında doğrudan Zennure ELGÜN GÜNDÜZ’e sorabilirsiniz, eğer isterseniz e-posta yolu ile de iletişim sağlayabilirsiniz (zennureelgungunduz@ardahan.edu.tr).

ÇALIŞMAYA KATILIM ONAY FORMU

Protokolü okudum ve bu çalışmaya katılımımın gönüllülük esasına dayalı olduğunu, istediğim zaman çalışmadan çekilebileceğimi ve benim ve kurumum ile ilgili bilgilerin gizli tutulacağını, herhangi bir sorum olduğunda rahatlıkla sorabileceğimi anladım.

Çalışmaya katılmayı kabul ediyorum.

Katılımcının adı – soyadı
imza

Tarih

APPENDIX 19. INTERVIEW PROTOCOL FORM

Mülakat Protokol Formu,

Sayın Katılımcı,

“Konu-odaklı öğretim ortamında uygulanan çoklu zeka etkinliklerinin İngilizce dilbilgisi, kelime, yazma ve okuduğunu anlama ile öğrencilerin ve öğretmenlerin tutumlarına etkileri” konulu doktora çalışması kapsamında bir mülakata katılmanız önemle rica olunur.

Mülakat sırasında İngilizce derslerinde işlenen etkinlikler hakkındaki duygu ve düşüncelerinizi bizimle paylaşmanız istenecektir. Sizin verdiğiniz bilgiler, İngilizce derslerinde uygulanan yöntemler konusunda öğrencilerin neler hissettiği ve düşündüğü ile ilgili çıkarımlara varabilmemiz için önem taşımaktadır.

Bu bağlamda, araştırmacı sizin müsait olduğunuz bir zamanda, kendi okulunuzda, İngilizce derslerinin işlenişi ile ilgili birtakım sorular soracaktır. Mülakatın süresi ortalama 15-20 dakika olacaktır.

Katkılarınızdan dolayı şimdiden teşekkür ederim.

Saygılarımla,

Zennure ELGÜN GÜNDÜZ

Araştırmacı : Zennure ELGÜN GÜNDÜZ
İngiliz Dili Eğitimi Bölümü
Eğitim Bilimleri Fakültesi, Atatürk Üniversitesi
e.mail: zennureelgungunduz@ardahan.edu.tr

Tez Danışmanı: Yrd. Doç. Dr. İ. Doğan ÜNAL
İngiliz Dili Eğitimi Bölümü
Kazım Karabekir Eğitim Fakültesi, Atatürk Üniversitesi
e-posta: idoğanunal@atauni.edu.tr

APPENDIX 20. EXPERT FEEDBACK FORM FOR THE TESTS OF THE 6TH GRADERS

Feedback form to evaluate the tests implemented for the 6th grades

Do the learning objectives cover all the subject matter in the 'A Day in My City' unit?

Do the questions cover all the learning objectives for the 'A Day in My City' unit?

Do the questions cover all the subject matter involved in the 'A Day in My City' unit?

Is the language used in the test appropriate for the 6th grade students?

Are there any incomprehensible or illegible questions, words or options in the test?

Are the options given for multiple choice items appropriate for the questions and subject matter of the related unit?

Is the time duration determined for the test enough?

Is the difficulty level of the test items appropriate for the foreign language level of students?

Are there any wrong answers in the answer key?

APPENDIX 21. EXPERT FEEDBACK FORM FOR THE TESTS OF THE 9TH GRADERS

Feedback form to evaluate the tests implemented for the 9th grades

Do the learning objectives cover all the subject matter in the 'Daily Routines' unit?

Do the questions cover all the learning objectives for the 'Daily Routines' unit?

Do the questions cover all the subject matter involved in the 'Daily Routines' unit?

Is the language used in the test appropriate for the 9th grade students?

Are there any incomprehensible or illegible questions, words or options in the test?

Are the options given for multiple choice items appropriate for the questions and subject matter of the related unit?

Is the time duration determined for the test enough?

Is the difficulty level of the test items appropriate for the foreign language level of students?

Are there any wrong answers in the answer key?

APPENDIX 22. RUBRIC FOR WRITING EVALUATION

Content

30-27 : Knowledgeable, relevant to assigned topic

26-22 : sure knowledge of subject, adequate range, mostly relevant to topic, but lacks detail

21-17 : limited knowledge of subject, little substance, inadequate development of topic

16-13 : does not show knowledge of subject, not many details, not relevant to assigned topic OR not enough to evaluate.

Organization

15-12 : well-organized, logical sequencing

11-9: loosely organized, but main ideas stand out, logical but incomplete sequencing

8-5 : ideas are confusing or disconnected, lacks logical sequencing and development

4-2: does not communicate, no organization OR not enough to evaluate

Vocabulary and Language Use

25-20: effective word choice and usage, word form mastery

19-15: adequate range, occasional errors of word form, choice, usage but meaning understood

14-10: limited range, frequent errors of word form, choice, usage, meaning somewhat confusing or not understood

9-7: essentially translation, little knowledge of English vocabulary, word form OR not enough to evaluate

Grammar Usage

25-20: Few errors of agreement, tense, number, word number, word order/function, articles, pronouns, prepositions

19-15: several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions, but meaning understood

14-10: major problems in sentences, many errors of agreement, tense, number, word order, articles, pronouns, prepositions and/or fragments, run-ons, deletions, meaning confused or not understood

9-5: almost no mastery of sentence construction rules, many errors, ideas not understood OR not enough to evaluate

Mechanics

5: few errors of spelling, punctuation, capitalization, paragraphing


4: some errors of spelling, punctuation, capitalization, paragraphing, but meaning understood

3 : frequent errors of spelling, punctuation, meaning is not understood

2: many errors of spelling, punctuation, capitalization OR not enough to evaluation

TOTAL SCORE: _____

APPENDIX 23. OFFICIAL PERMISSION FORMS



**T.C.
ARDAHAN VALİLİĞİ
İl Millî Eğitim Müdürlüğü**

04/11/2014

Sayı : 83736611/605.01/5016226
Konu: Araştırma İzni

VALİLİK MAKAMINA

İlgi :Atatürk Üniversitesi Eğitim Bilimleri Enstitüsü Müdürlüğünün 13/10/2014 tarih ve 2496 sayılı yazısı.

Atatürk Üniversitesi Eğitim Bilimleri Enstitüsünde İngilizce Öğretmenliği Bilim Dalı doktora öğrencisi Zennure ELGÜN GÜNDÜZ'ün " **Konu Odaklı Öğretim Çerçevesinde Uygulanan Çoklu Zeka Etkinliklerinin Öğrencilerin İngilizce Beceri Gelişimlerine ve Tutumlarına Etkileri**" konulu tez çalışmasının, ilimiz Ardahan Yunus Emre Anadolu Lisesi 9/A,B öğrencileri, Ardahan TOKİ Mehmet Akif Ersoy Ortaokulu 6/A,B öğrencilerine uygulanması Müdürlüğümüzce uygun görülmektedir.

Makamlarınızca da uygun görülmesi halinde olurlarınıza arz ederim.

T.Fikret ETEKER
Millî Eğitim Müdürü

OLUR
31/10/2014

Muharrem COŞGUN
Vali a.
Vali Yardımcısı

bu evrak güvenli elektronik imza ile imzalanmıştır. <http://evraksorgu.meb.gov.tr> adresinden 7fd1-8822-300e-a780-b9b2 kodu ile teyit edilebilir.



T.C.
ARDAHAN VALİLİĞİ
İl Millî Eğitim Müdürlüğü

Sayı : 83736611/605.01/5047708
Konu: Araştırma İzni

05/11/2014

ATATÜRK ÜNİVERSİTESİ
(Öğrenci İşleri Daire Başkanlığı)

İlgi: a) 23/10/2014 tarih ve 21736 sayılı yazınız.
b)04/11/2014 tarih ve 5016226 sayılı Valilik Onayı

Üniversiteniz Eğitim Bilimleri Enstitüsü İngilizce Öğretmenliği Bilim Dalı doktora öğrencisi Zennure ELGÜN GÜNDÜZ'ün "**Konu Odaklı Öğretim Çerçevesinde Uygulanan Çoklu Zeka Etkinliklerinin Öğrencilerin İngilizce Beceri Gelişimlerine ve Tutumlarına Etkileri**" konulu tez çalışmasının, ilimizde belirlenen okullarda uygulanması uygun görülmüş olup, alınan Valilik Onayı ekte gönderilmiştir.

Bilgilerinizi arz ederim.

T.Fikret ETEKER
Vali a.
Millî Eğitim Müdürü

EKLER:

Ek-1 Valilik Onayı

CURRICULUM VITAE

Personal Information

Name Surname : Zennure ELGÜN GÜNDÜZ

Place / Date of Birth : Zonguldak / 13.04.1983

Education

Primary Education : Karaelmas Primary School / Zonguldak – 1998

Secondary Education: Uzunmehmet Anatolian High School – 2001

BA : Boğaziçi University, Translation and Interpreting Studies – 2005

MA : Boğaziçi University, Department of English Language Teaching – 2009

Employment History

2005 – 2011 : English Language Teacher at the Ministry of National Education

2011 - : Lecturer at Ardahan University

Contact Information

Address : Ardahan University, Faculty of Humanities and Letters,

Department of English Language and Literature / ARDAHAN

e-mail: zennureelgungunduz@ardahan.edu.tr ; zennureelgun@yahoo.com