A STUDY OF MULTIPLE INTELLIGENCES, FOREIGN LANGUAGE SUCCESS AND SOME SELECTED VARIABLES

(ZEKA TÜRLERİ, ÖĞRENCİLERİN YABANCI DİL BAŞARILARI VE SEÇİLMİŞ DEĞİŞKENLER ÜZERİNE BİR ÇALIŞMA)

Aysel SARICAOĞLU[1]
Arda ARIKAN[2]

ABSTRACT

The aim of this study was to investigate the relationship between students' gender and intelligence types, the relationship between particular intelligence types and students' success in grammar, listening and writing in English as a foreign language and the relationship between parental education and students' types of intelligences. Preparatory class students (n=144) attending Erciyes University's School of Foreign Languages participated in the study and the data was collected through the Multiple Intelligences Inventory for Adults. Descriptive statistics, independent samples t-test analysis, correlation analysis and one-way analysis of variance (ANOVA) were used to analyze the data. Analysis of the data revealed no significant gender differences in the intelligence types held by the participants except for that between gender and linguistic intelligence which was positive. Negative but significant relationships were found between success in students' test scores in grammar and bodily-kinesthetic, spatial, and intrapersonal intelligences whereas the relationship between musical intelligence and writing was found to be significant and positive. Finally, no significant relationship was found between parental education and students' intelligence types.

Keywords: Multiple intelligences, intelligence, success, gender, parental education

ÖZ

Bu çalışmanın amacı cinsiyet ile öğrencilerin zekâ türleri arasında, belirli zekâ türleri ile öğrencilerin İngilizce dilbilgisi, dinleme ve yazma başarıları arasında ve öğrencilerin zekâ türleri ile anne ve babalarının eğitim seviyeleri arasında bir ilişki olup olmadığını araştırmaktır. Erciyes Üniversitesi Yabancı Diller Yüksekokulu'nda öğrenim gören 144 hazırlık sınıfı öğrencisi çalışmada yer almış ve veri toplama aracı olarak Yetişkinler için Çoklu Zekâ Envanter'i kullanılmış ve veriler tanımlayıcı istatistikler, bağımsız örneklem t-testi, korelasyon katsayısı ve tek yönlü varyans analizi (ANOVA) teknikleri ile analiz edilmiştir. Çalışmanın sonuçlarına göre, kız ve erkek öğrenciler arasında zekâ türleri açısından anlamlı bir ilişki bulunmamaktadır. Cinsiyet ile dilsel zekâ arasında pozitif bir ilişki olduğu ortaya çıkmıştır. Bedensel-duyusal, uzaysal ve bireysel-içedönük zekâ ile dilbilgisi arasında olumsuz ama anlamlı bir ilişki çıkarken, müziksel zekâ ile yazma becerisi arasındaki ilişki olumlu ve anlamlıdır. Son olarak, anne ve babanın eğitim seviyelerinin öğrencilerin zekâ türleri üzerinde etkisinin olmadığı saptanmıştır.

Anahtar kelimeler; Çoklu zeka, zeka, başarı, cinsiyet, aile, eğitim

[1] Ins., Erciyes University, School of Foreign Languages. E-mail: ayselsaricaoglu111@gmail.com
[2] Asst. Prof. Dr., Hacettepe University, Faculty of Education, Dept. of Foreign Language Teaching. E-mail: ardaari@gmail.com

INTRODUCTION

MI Theory: the Construct and its Components

Multiple Intelligences (MI) Theory (MIT) grew out of the work of Howard Gardner who challenged the too narrowly defined intelligence with his proposal of basic human intelligence types (linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal and intrapersonal). Although originally started as 7 intelligences, an eighth intelligence "naturalistic intelligence" has been added to the list and now there is the possibility of a ninth intelligence "emotional intelligence" (Armstrong, 2001; Fogarty and Stoehr, 2008) or "spiritual intelligence" (Albert and Reed, 2008). MI, as a theoretical construct, suggests that intelligence should be determined by measuring one's capacity for solving problems and fashioning products in a context-rich and naturalistic setting. Chen and Gardner (2005: 79) describe the types of intelligences as the following;

1. *Linguistic intelligence*, describes the ability to perceive and generate spoken and written language,
2. *Logical-mathematical intelligence*, involves the ability to appreciate and utilize numerical, abstract, and logical reasoning to solve problems,
3. *Musical intelligence*, entails the ability to create, communicate, and understand meanings made out of sound,
4. *Spatial intelligence*, refers to the ability to perceive, modify, transform, and create visual and/or spatial images,
5. *Bodily-kinesthetic intelligence*, deals with the ability to use all or part of one's body to solve problems or fashion products,
6. *Naturalistic intelligence*, concerns the ability to distinguish among critical features of the natural environment,
7. *Interpersonal intelligence*, describes the ability to recognize, appreciate and contend with the feelings, beliefs, and intentions of other people,
8. *Intrapersonal intelligence,* involves the ability to understand oneself including emotions, desires, strengths, and vulnerabilities and to use such information effectively in regulating one's own life.

MIT is proposed and put into practice in a way to call for an alternative classroom design to traditional classroom setting. It has been embraced by the teachers in need of an educational program which addresses a variety of ways people learn (Shore, 2004). In order to explain why MI is an effective way of teaching and why it can overcome some of our problems in education, Moran, Kornhaber and Gardner (2006: 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.

In support of the quotation above, Nolen (2003: 119) suggests that the
presentation of foreign language teaching material should engage all or most
of the intelligences due to the fact that each of the intelligences is potentially
available in every learner. Hence, employing MI does not necessarily mean
designing a lesson in nine different ways so that all students can access
classroom materials prepared separately for each and all of the intelligence
types. Instead, materials should allow students with different intelligence types
to interact with each other and to develop the intelligences in which they are
less strong (Moran, Kornhaber and Gardner, 2006; Heacox, 2002).

Poole's (2000: 532) clear description of an MI classroom seems to be
helpful in understanding the potential of the theory in practice. In an
integrated and cooperative MI classroom, the teacher employs non-traditional
approaches to construction of meaning through a flexible but careful planning.
The small social groups and learner-centered activities enable the students to
share information and get a better understanding of what is learnt. In such a
relaxed and non-threatening learning environment that is characterized by
contextual clues, learners receive comprehensible input by working
collaboratively. These characteristics of an MI classroom, as described by
Poole, lead the researcher to the conclusion that MIT is inclusive of many
familiar approaches such as whole language, cooperative learning, and other
appropriate pedagogies that take children beyond the limits of rote learning
(2000: 540).

Classroom research has reported that MIT is a promising theoretical
construct which can foster students' learning. Haley's (2004: 171) research on
the ways teachers apply MIT in foreign and second language classrooms
showed that students in experimental groups outperformed those in control
groups while developing a high degree of satisfaction and positive attitude
toward the content. Emig (1997: 50) associates MIT with "magic" since it is
highly advantageous for both students and teachers because students feel more
competent and confident in an MI-based classroom. Similarly, in agreement
with Emig (1997) and Haley (2004), Hamurlu (2007) found that MIT-based
instruction increased students' achievement in English classes and had
positive effect on students' attitudes towards English.

Assessment and evaluation of the instruments designed specifically for
intelligence types have also drawn attention. With such an aim, McMahon
and Rose (2004) evaluated the reliability of the Teele's (2000) Inventory of
Multiple Intelligences (TIMI) and investigated the relationship between
intellectual preferences and reading achievement. Their results revealed that
the instrument does not provide consistent measurement and needs further
development and refinement (2004: 48) although relationship was found

between reading comprehension and logical-mathematical intelligence. Research has also shed light on the effect of MI activities on a diverse group of students' learning of another language. Noble (2004: 205) claimed that one of the greatest challenges for teachers today is to provide curriculum which effectively caters to the needs of diverse groups students and "…the MI framework was providing more options for children who were not academically or linguistically strong in English to demonstrate their knowledge." Shearer (2004) investigated three interrelated propositions about a reliable and valid assessment for multiple intelligences, MI-inspired instruction and curriculum and the use of strength-based learning activities and concluded that MI profiles of students may be used by students and teachers alike to further students' educational agendas because they serve as the basis for personalized educational planning.

Researchers have investigated the relationship between gender and MI of specific learners. With an aim of finding out whether or not there were any gender differences in students' intelligence profiles in relation to their gender, Loori (2005) conducted a study of 90 English language learners and found that males showed higher preference in logical/mathematical intelligence. On the other hand, Razmjoo (2008) found that the use of intrapersonal intelligence by females was higher than that of the males whereas no significant difference was found between male and female participants regarding language success and types of intelligences. Hence, contrasts exist between the results of these two studies which studied the relationship with gender and MI.

Work on MIT has growingly been carried out in Turkey most of which were on young learners and revealed clashing results. Özdemir, Güneysu and Tekkaya (2006) found that logical-mathematical intelligence was the leading intelligence type followed by interpersonal and bodily-kinesthetic intelligence while the musical intelligence was the least common intelligence type held by students. In contrast, Yilmaz and Fer's (2003) small scale study with 16 primary school students showed that visual-spatial intelligence was the leading whereas interpersonal and intrapersonal were the least common intelligence types.

While learners are in the center of some studies, teachers are the center of attention in some others (Şad and Sarıbaş, 2008; Barrington, 2004). Şad and Arıbaş (2008) investigated the effect of materials and activities based on MIT in relation to some variables on 102 English teachers from 32 primary schools and found that English teachers utilized MIT at a moderate level and that a balanced attention was not paid to students' intelligence types. Furthermore, no significant difference was found in terms of gender, the program of graduation and seniority in relation to teachers' utilization of MIT. Likewise, Barrington (2004) ran three workshops for university-level foreign language instructors which allowed them to consider MI in the context of their own

teaching. According to the results of that study, most of the instructors knew little or nothing about the theory before the workshop. After the workshop, they found the theory relevant to and applicable in their higher education teaching contexts. However, since the study was based on a three-hour workshop, it was insufficient to bring about much change in terms of the teaching practices of the participants of the study.

As can be seen in the aforementioned review of literature looking at various aspects of MIT, there are clashing results which require more research shedding light on the issue. Hence, in order to build onto our current knowledge of MIT, this study aims to explore

a) the types of intelligences held by university level foreign language learners;
b) whether there is a significant difference between female and male students in terms of their types of intelligences;
c) whether there is a significant relationship between a particular type of intelligence and success in grammar, listening and writing;
d) whether there is a significant relationship between parents' level of education and students' intelligence types.

METHOD

Subjects
The participants were 144 (78 female and 66 male) randomly selected preparatory class students attending English courses at Erciyes University's School of Foreign Languages. The participants were in Course B, suggesting that they were intermediate-level students whose ages ranged from 18 to 22. There are three streams of courses at this school, namely, Course B (intermediate level), and Course C and D (pre-intermediate level and below). Course B students were selected for the purposes of this study since the inventory used in this study required an intermediate level of English for the students to understand the content of the instrument.

The Instrument
MI Inventory for Adults, prepared by Armstrong (1994), was used in the study. The inventory consists of a Likert-type scale with 70 items measuring types of intelligences. Assessing seven intelligences, the inventory has ten statements for each specific intelligence type. The sentences in the inventory included some vocabulary items and grammatical structures which the students had not learnt. Thus, these items were simplified in a way that the students would have no difficulty understanding them. In addition to this, a section gathering students' personal information was included in the inventory

which consisted of the items about students' gender and their mothers' and fathers' level of education. In order to investigate the relationship between a particular type of intelligence and success in grammar, listening and writing, students scores of grammar, listening and writing were obtained from the administration of the School of Foreign Languages.

A pilot study was conducted with B-level students (n=40) taking evening courses at the context of the study in order to determine the time necessary for the students to complete the inventory and to see whether there were any unclear statements for them. While doing that, the reliability analysis of the instrument was completed which showed that the Cronbach's alpha reliability coefficient was .792, indicating that the instrument can be considered as a reliable tool to be used for the purposes of this study.

Data Analysis

SPSS 15.00 was used to analyze the data collected for the study. Independent samples t-test analysis was used to determine whether there was difference between male and female students in terms of their types of intelligences. In order to identify the intelligence types of the students, the data were analyzed descriptively. In this step, simple descriptive statistics were attained to identify group tendencies in terms of students' intelligence types. In order to investigate the relationship between a particular type of intelligence and students' success in grammar, listening and writing in English as a second language, the relationship between gender and the intelligences of the students and the relationship between parental education and students' types of intelligences, the data were analyzed inferentially by means of correlation analysis.

FINDINGS

The findings of the study are presented in the order of the research questions.

1. The Types of Intelligences Held by University Level Foreign Language Learners

The analysis revealed that logical mathematical intelligence (mean: 3.88) was the leading intelligence among the students who participated in this study. The other dominant intelligence types were spatial intelligence (mean: 3.67), bodily-kinesthetic (mean: 3.66), interpersonal intelligence (mean: 3.61), and intrapersonal intelligence (3.54). These were followed by a considerably less common intelligences, namely linguistic intelligence (mean: 3.19) and musical intelligence (mean: 3.18). It is noteworthy that musical intelligence

had the highest standard deviation, indicating a greater variation among the participants who showed tendency toward musical intelligence. Table 1 presents the results of the descriptive statistics.

Table 1. Types of Intelligences Held by Students

Intelligence Types	Mean	Std. Deviation
Logical-mathematical	3.8889	.4652
Spatial	3.6732	.4407
Bodily-kinesthetic	3.6607	.4438
Interpersonal	3.6171	.4943
Intrapersonal	3.5480	.4977
Linguistic	3.1984	.4638
Musical	3.1839	.6021

2. Whether There is a Significant Difference between Female and Male Students in terms of their Types of Intelligences

Results show that intrapersonal, linguistic, logical, and musical intelligences were more common among females. Further analysis of group differences revealed a significant difference between males and females only in linguistic intelligence (p<.02). The results are presented in Table 2.

Table 2. Gender Differences

Types of Intelligence	Gender	Mean	SD	t	Sig. 2 tailed
Bodily-Kinesthetic	*Female*	3.6326	.44577	-.825	.411
	Male	3.6939	.44254		
Interpersonal	*Female*	3.6033	.50341	-.364	.716
	Male	3.6335	.48660		
Intrapersonal	*Female*	3.5954	.66917	.474	.636
	Male	3.5488	.47398		
Linguistic	*Female*	3.2808	.43422	2.354	.020
	Male	3.1010	.48178		
Logical-Mathematical	*Female*	3.7684	.59298	-.393	.695
	Male	3.6202	.48081		
Spatial	*Female*	3.8955	.60686	1.627	.106
	Male	3.9311	.45092		
Musical	*Female*	3.2075	.57836	.341	.733
	Male	3.1728	.64346		

3. Whether there is a significant relationship between a particular type of intelligence and success in grammar, listening and writing

The third research question scrutinized whether there was a relationship between students' intelligence types and their achievement grammar, listening and writing. Pearson correlation coefficients indicated some relationship between students' exam scores and intelligence types. Table 3 demonstrates the relationship among grammar, listening, and writing and the types of intelligences withheld by the participants dominantly.

Table 3. The Relationship between Intelligence Types and Success

	Bodily	Inter.	Intra.	Linguistic	Logical	Spatial	Musical
GRAMMAR	**-.166***	-.110	**-.183***	-.062	-.081	**-.172***	.091
LISTENING	-.107	-.103	-.119	-.124	-.061	-.137	.125
WRITING	-.027	.034	.008	.043	-.124	-.107	**.182***

* Correlation is significant at the 0.05 level (2-tailed).

Results show that there is a low positive relationship between writing scores and musical intelligence (r=.182, p<.033). The analysis also indicated some negative correlations. Bodily-kinesthetic intelligence (r= -.166, P<.049), intrapersonal intelligence (r=-.183, P<.031), and spatial intelligence (r=-.172, p<.042) had low negative correlations with students' grammar test scores.

4. Whether There is a Significant Relationship between Parents' Level of Education and Students' Intelligence Types

The final research question concerned the relationship between parents' educational background and students' intelligence types. One way ANOVA test did not reveal any differences between groups of students whose parents had different levels of education. The differences were as follows:

- bodily-kinesthetic intelligence (mother's education, F=1.183, p<.310; father's education, F=.875, p<.419);
- interpersonal intelligence (mother's education, F=.613, p<.543; father's education, F=.005, p<.995);
- intrapersonal intelligence (mother's education, F=.653, p<.522; father's education, F= 4.147, p<.845);
- linguistic intelligence (mother's education, F=2.030, p<.135; father's education, F=1.628, p<.200);
- logical mathematical intelligence (mother's education, F=.410, p<.665; father's education, F=.062, p<.940);
- spatial intelligence (mother's education, F=1.761 p<.176; father's education, F=.962, p<.385);

117

- musical intelligence (mother's education, F=1.623, p<.201; father's education, F=.469, p<.627).

DISCUSSION AND CONCLUSION

The main objective of this study was to explore intelligence types that students employ in relation to their foreign language learning. Results indicated that logical-mathematical intelligence was the leading intelligence type and the musical intelligence was the least common intelligence type employed by the students who participated in this study. These findings are in line with Özdemir et al. (2006) who also reported stronger preference for logical mathematical intelligence and weaker preference for musical intelligence. However, contrasts appear between these two studies in that the students in our study were found to be stronger in their bodily-kinesthetic intelligence. Intrapersonal intelligence, which is the ability to understand one's feelings, strengths, and weaknesses (Chen and Gardner, 2005) was found to be the fifth common intelligence type in our study. This result indicates that students may not be successful in understanding their emotions, strong and weak characteristics. This situation requires further scrutiny since it draws attention to the importance of affective variables in second and foreign language learning. As Smith (2001: 44) explains, affective variables such as self-esteem, inhibition and anxiety are important factors in second language mastery and are aspects of intrapersonal intelligence which helps learners examine their strengths and weaknesses in language learning processes. Similarly, as Rahimi and Abedini's (2009: 15) review of literature shows, affect is considered to be "one of the main determining factors of success in learning foreign or second languages." Hence, teachers should try to develop their students' intrapersonal intelligence so that this particular intelligence type will help improving their overall language learning.

Contrary to our expectations, students were found to be weak in their linguistic intelligence which refers to the ability to perceive and generate written and spoken language (Chen and Gardner, 2005: 79). Due to the fact that English is the only course which they take at School of Foreign Languages for more than eight months, it was assumed that this intensive period of language learning may have led to the development of their linguistic intelligence. However, the findings of this study reveal that linguistic intelligence is the second least common type of intelligence amongst the students which may result from traditional aspects of Turkish education system which prioritizes rote learning and passive involvement of learners in learning processes. The fact that students generally make use of logical-mathematical intelligence may be related to development of this intelligence by the teachers through the materials and activities used. As a result, logical-

mathematical intelligence of the students seems to have been strengthened whereas other types appear to have been ignored. As Nolen (2003) and Smith (2001) articulate, individuals have each intelligence to a certain level, but as a result of the exposure to specific instructional materials designed for a certain intelligence type, this intelligence type develops to a higher level in the individual. In other words, one type of intelligence becomes stronger while others do not develop fully. Thus, teachers need to avoid developing only one intelligence type of the students and should address all intelligence types.

Although the results about the most and the least common intelligence types of the students seem to give information about the students themselves, they provide us with some information for the use of foreign language teachers as one research question tried to illuminate whether there was a relationship between a particular type of intelligence and students' success in grammar, listening and writing. Although Razmjoo (2008) found no significant relationship between language success and the types of intelligences in particular, three types of intelligences were found to have relationship with listening, writing and grammar. While writing and musical intelligence were positively related, negative relationship was found between bodily-kinesthetic, intrapersonal, spatial intelligences and grammar.

These results yield pedagogical implications for foreign language teachers among which the importance of teachers' knowledge of the relationship between intelligence types and acquiring basic language skills is the leading one. Moreover, the positive relationship between writing in English as a foreign language and musical intelligence provides support for the remarks made earlier by Richards and Rodgers (2001: 117) who claimed that "there are aspects of language such as rhythm, tone, volume and pitch that are more closely linked, say, to a theory of music than to a theory of linguistics." This result showing that musical intelligence is not a popular type of intelligence among Turkish learners of English may serve in explaining problems of Turkish students of English with pronunciation knowing that attaining successful oral language skills require employing correct use of the rhythm, tone, volume and pitch. Hence, further research should scrutinize whether or not there exists relationship between musical intelligence and correct pronunciation.

The discussion above leads us to suggest that employing grammar-based syllabus with traditional materials with students who have strong bodily-kinesthetic and intrapersonal intelligences may have detrimental effect on students' development since such students are known to benefit from activities such as role plays, field trips, miming, creative drama and movement and other group activities while teaching grammar since these activities are appropriate for the bodily-kinesthetic intelligence. Activities such as independent student work, individualized projects, personal journal keeping

and reflective learning for developing intrapersonal intelligence should also be employed. In short, the teaching of the grammatical structures can be integrated in certain kinds of activities in order to address certain types of intelligences.

The present study also looked at the relationship between gender, parental education and students' multiple intelligences. Although it was assumed that the level of their parents' education may have some effect on their children's intelligence types, results of this study revealed no correlation. In terms of gender, however, results of this study indicated significant results. Loori (2005) had found a relationship between gender and logical/mathematical intelligence and intrapersonal intelligence. It was seen that logical/mathematical intelligence was stronger in males while intrapersonal intelligence was higher in females. However, in this study, logical/mathematical, intrapersonal, linguistic, and musical intelligences were found to be more common among female students. However, significant relationship was found only between linguistic intelligence and gender in that it is more common in females than males similar to the results of Teele's (2000) study.

The present study was conducted with intermediate level students. Hence, similar studies should be conducted with lower and upper level students to have a larger picture of the phenomenon under study. Similarly, because most of the intelligence types studies completed in Turkey are related to young learners, the relationship between different aspects of multiple intelligences and language proficiency of adult learners should be studied.

This study's focus was on the relationship between types of intelligence and foreign language skills and aspects of grammar, writing and listening. The relationship between intelligence types and reading could not be examined due to the fact that it was integrated into the grammar exam. If the reading grades of the students could have been obtained separately, it would have been possible to investigate the relationship between their reading ability and intelligence types. Questions such as how a certain intelligence type relates to vocabulary, grammar, reading, writing, listening and speaking skills remain unanswered. Experimental and preferably longitudinal studies which include MI-based language instruction and traditional instruction may yield more meaningful and useful results. More specifically, the proficiency level of language learners in a MI-based reading or writing class can be compared to the proficiency level of language learners in a traditional reading or writing class at the end of the term. Hence, future studies should include an analysis of intelligence types and students' success in language skills. Along the same lines, teacher development activities at all levels should inform future teachers of English about the theory and practice of MI to enhance practice of foreign language learning and teaching.

REFERENCES

Albert, D. H., & Reed, J. (2008). What really matters: A conversation between David H. Albert and Joyce Reed. *Life Learning Magazine*, March/ April, 8-32. Retrieved June 19, 2009, from http://www.lifelearningmagazine.com/0804/MarApr08.pdf

Armstrong, T. (1994). *Multiple Intelligences in the Classroom.* Alexandria, VA: ASCD.

Armstrong, T. (2001). *Multiple Intelligences in the Classroom*. Alexandria, VA: ASCD.

Barrington, E. (2004). Teaching to student diversity in higher education: how multiple intelligence theory can help. *Teaching in Higher Education*, *9*(4), 421-434.

Chen, J-Q., & Gardner, H. (2005). Assessment based on multiple intelligences theory. In D. P. Flanagan (Ed.), *Contemporary Intellectual Assessment: Theories, Tests, and Issues* (77-102). New York: Guilford Press.

Emig, V. B. (1997). A multiple intelligences inventory. *Educational Leadership, 55*(1), 47-50.

Fogarty, R., & Stoehr, J. (2008). *Integrating curricula with multiple intelligences: Teams, themes, & threads*. Thousand Oaks, CA: Corwin Press.

Haley, M. H. (2004). Learner-centered instruction and the theory of multiple intelligences with second language learners. *Teachers College Record, 106*(1), 163-180.

Hamurlu, M. K. (2007). *The effect of instruction based on multiple intelligences theory on the students' achievements in English and their attitudes towards English at 9th grade at foreign language based high school.* Unpublished MA thesis, Gaziantep University, Graduate School of Social Sciences, Department of Educational Sciences, Gaziantep: Turkey.

Heacox, D. (2002). *Differentiating instruction in the regular classroom: how to reach and teach all learners, grades 3-12.* Minneapolis, MN: Free Spirit Pub.

Loori, A. A. (2005). Multiple intelligences: a comparative study between the preferences of males and females. *Social Behavior and Personality, 33*(1), 77-88.

McMahon, S. D., & Rose, D. S. (2004). Multiple intelligences and reading achievement: an examination of the Teele Inventory of Multiple Intelligences. *The Journal of Experimental Education, 73*(1), 41-52.

Moran, S., Kornhaber, M., & Gardner, H. (2006). Orchestrating multiple intelligences. *Educational Leadership, 64*(1), 22-27.

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), 115-119.

Özdemir, P., Güneysu, S., & Tekkaya C. (2006). Enhancing learning through multiple intelligences. *Educational Research, 40*(2), 74-78.

Poole, G. T. (2000). *Application of the theory of multiple intelligences to second language learners in classroom situations.* Speech at the National Association of African American Studies & National Association of Hispanic and Latino Studies: 2000 Literature Monograph Series 21-26 February 2000, Houston.

Rahimi, A., & Abedini, A. (2009). The Interface between EFL Learners' Self-Efficacy Concerning Listening Comprehension and Listening Proficiency. *Novitas-ROYAL (Research on Youth and Language), 3(1)*, 14-28.

Razmjoo, S. A. (2008). On the relationship between multiple intelligences and language success. *The Reading Matrix, 8*(2), 155-174.

Richards, J. C., & Rodgers, T. S. (2001). *Approaches and methods in language teaching.* New York: Cambridge University Press.

Shearer, C. B. (2004). Using a multiple intelligences assessment to promote teacher development and student achievement. *Teachers College Record, 106*(1), 147-162.

Shore, J. R. (2004). Teacher education and multiple intelligences: a case study of multiple intelligences and teacher efficacy in two teacher preparation courses. *Teachers College Record, 106*(1), 112-139.

Smith, E. (2001). Implications of multiple intelligences theory for second language learning. *Post-Script, 2*(1), 32-52.

Şad, N., & Arıbaş, S. (2008). The levels of teachers at primary schools to employ materials and activities based on multiple intelligences theory: Malatya sample. *İnönü Üniversitesi Eğitim Fakültesi Dergisi, 9*(15), 169-187.

Teele, S. (2000). *Rainbows of intelligence: Exploring how students learn.* USA: Corwin Press.

Yilmaz, G., & Fer, S. (2003). Çok yönlü zeka alanlarına göre düzenlenen öğretim etkinliklerine ilişkin öğrencilerin görüşleri ve başarıları. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 25*, 235-245.