LANGUAGE IN INDIA

Strength for Today and Bright Hope for Tomorrow

Volume 14:3 March 2014
ISSN 1930-2940

The Correlation between EFL Learners' Multiple Intelligences and Their English Achievement Abilities Regarding Their Learning Styles

Saeid Saadatmanesh
Department of English Teaching, Science and Research Branch, Islamic Azad University, Arak, Iran

==========

Abstract

This present study intends to examine the correlation between EFL learners' multiple intelligences and their English achievement abilities regarding their learning styles. This research was implemented using 200 high school students to investigate the relationship between their multiple intelligences and their English achievement tests in Arak, the capital of Markazi province. Their fields of study include natural sciences and mathematics. Totally in Arak city 62078 students study in different high schools, 30344 are female and 31734 are male.

Shokrai Male Public High School and Tarbiat Female Public High School were chosen randomly. Half of the subjects are female and the other half are male, the subjects are also in second and third grades.

The instruments used were the Multiple Intelligence Developmental Assessment Scales (MIDAS), a commercially designed instrument which was designed by Shearer in 1996, and Group Embedded Figure Test (GEFT) to understand the field dependent/field independent learning strategies of the students.

Finally the study aimed at investigating the correlation between students' MI and English Achievement Tests, and also investigating the correlation between the students learning styles and English achievement tests. In order for the students to have same features, a registration form was given to them, for each field of study, grade and gender 25 students who had the same features were chosen for each class of this study.

The results showed that there is a relationship between the combination of Multiple Intelligences and students' final English tests and also there is a relationship between linguistic intelligence and students' final English tests. But there is not any relationship between students' FD/I learning styles and their final English tests.

Key words: Achievement tests, Multiple Intelligences, Multiple intelligence developmental assessment scales, Field dependent/independent learning strategies, Group embedded figure test.

Introduction

1.1. Introduction

The purpose of this section is to introduce the problems and highlight the grounds for launching the current project. Hence it begins with a general overview of the background to Multiple Intelligences and Field Dependent/Field Independent learning strategies. Statement of the Problem, significance of the study, research assumptions, research questions, research hypotheses, definition of key terms, limitations and delimitations of the study are other issues which are dealt with in this section.

The modern study of intelligence is traced to Alfred Binet, whose research was conducted at the end of the 19th century and the beginning of the 20th century. At this time the study of psychology moved away from prescientific understandings to empirical investigations (Corno, et al., 2002). As of some studies, Binet, collaborating with Theodore Simon, believed that intelligence was measurable (Binet & Simon, 1905). So they decided to propose a series of questions that could be quickly administered and scored. The higher a person scored, it was assumed, the more intelligent the person was.

A good point of this test was that large groups of people could be tested at minimal cost and the more intelligent among them identified. For instance, during World War I, many men were drafted, and there was a need to identify quickly the more intelligent men, so they could be trained as officers. The test, which was used, had practical use and was economic and efficient.

Two disadvantages of this test were that all of the questions were directly related to either mathematics or language skills, thus measuring intelligence by only these two domains, and the entire test was analytic, a processing style inhibiting the ease with which global people could respond (Brennan, 1984).

1.1.1. Multiple Intelligences

Since the introduction of multiple intelligences theory (MIT) in Gardner's book entitled *Frames of Mind* (1983), interest has been growing internationally in assessment of multiple intelligences (MI) with regard to learning, achievement, and knowledge acquisition. Based on the avoidance gained from research in biology, genetics, and psychology, Gardner (1983) suggests the existence of eight relatively autonomous, but interdependent, intelligences, rather than just a single construct of intelligence. He redefines the concept of intelligence as "the ability to solve problems or fashion products that are of sequence in a particular cultural setting or community" (Gardner 1993, p.15).

As it is proposed by Gardner, there is both biological and cultural basis for the multiple intelligences. Emphasizing on the cultural context in which the intelligence operates is one of the most important aspects of the theory of multiple intelligences. Since some cultures focus on some types of intelligences, the other cultures may put emphasis on still other types of intelligences. Gardner (1993) believes that it is so important to consider each individual as "collection of aptitudes" (p.27) rather than being identified by a single IQ test.

It has been claimed by Gardner that the list of intelligences may include more intelligences. It has been suggested by Armstrong that a list of proposed intelligences includes spirituality, moral sensibility, sexuality, intuition, creativity, olfactory perception, etc. However, these intelligences must meet Gardner's eight criteria to be accepted as different types of intelligence. Gardner's MI has rapidly been incorporated into school curriculum since its emergence in 1983, in educational systems across the United States and other countries (Christine, 2003). I have talked with lots of teachers and many of them accept MI theory and are attempting to teach students in the manner that will enhance their dominant intelligence(s).

1.1.2. Field-Dependent/Independent Learning Styles

The field dependence/independence (FD/I) construct is among the most widely studied areas in the range of cognitive style dimensions appearing in the language learning literature. FD/I concerns two contrasting ways of processing information. According to Brown (2007), a

field independent (FI) style enables us to distinguish parts from a whole, and to concentrate on something (like reading a book in a noisy street). A field dependent (FD) style, conversely, is dependent on the total field so that the parts within the field are not easily perceived. Individuals located towards the FD have difficulty in disconnecting incoming information from its contextual surroundings, and are more likely to be affected by external cues and to be non-selective in their information (Guisande, Paramo, Tinajero, & Almeida, 2007). Vice versa, FI individuals like to analyze information into its component parts, and are not capable to deal with information structures as wholes (Khansari, H. R., 2012).

Field independence is correlated with more language success especially second language learning (Chapelle and Green, 1992; Ahmadi and Yamani, 2003). In particular, there are some other research focusing on the correlation between FD/I and integrative tests. According to Chapelle (1988), FI learners have a better performance in comparison with FD learners in cloze test. However, field dependents and field independents learn in two different ways and they have different learning styles. Field independents outperform in class learning which requires analysis and attention to details. Field dependents excel at learning the communicative aspects of language learning.

1.1.3. Language Testing

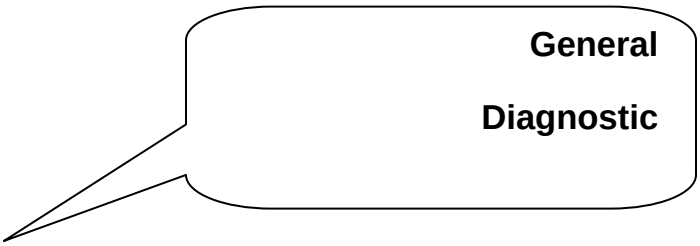
Testing is one of the important parts of language teaching and language learning. According to (Farhady, H. et al. 2012), tests which are well-made can help the students in two ways:

1) Students will be encouraged and motivated in learning the subject matter. Appropriate evaluation provides a sense of accomplishment in the students and in many cases alleviates students' dissatisfaction, frustration, and complaints about the educational programs.

2) Testing kelps the students prepare themselves and thus learn the materials. Students will master the language by repeated preparations. According to (Madsen, 1983) a better awareness of course objectives and personal language needs can help the students adjust their personal activities toward the achievement of their goals. (Madsen, 1983).

1.1.3.1. Achievement tests

The tests in which are used for achievement purposes are designed to measure the degree of students' learning from particular sets or set of instructional material(s). Most classroom tests fall in this category, so these tests play a crucial role in educational environments. Some examples of these tests are midterm and final exams. These tests should be based on the materials taught in the classroom, so the teachers are the ones who make them. Two subcategories of achievement are: general and diagnostic.



Most of achievement tests deal with a body of knowledge that the examinee is supposed to achieve through a course of study. Such tests are called general achievement tests. Diagnostic achievement tests are aimed at measuring the detailed elements of an instrumental topics (Farhady, H. 2012).

1.1.3.1.1. Proficiency Tests

Proficiency tests are used to measure the overall language ability of the learners. These tests are designed to measure the degree of knowledge a learner has accumulated through his language education, the degree of his ability in language components, and the degree he is able to practically demonstrate his knowledge of language use. The ways in which the learners have achieved a certain body of knowledge is not important in proficiency measurements (Farhady, H. 2012). Briere (1972) defines it as "The degree of competence or capability in a given language demonstrated by an individual at a given point in time independent of a specific textbook, chapter in the book, or pedagogical method." (p. 332).

1.1.3.1.1.2. Knowledge Tests

These tests are used when the medium of instruction is a language other than the learners' mother tongue. In these cases, the second language is used to as the language of the test to measure the examinees knowledge in areas other than the language itself.

1.1.4. Multiple Intelligences and Learning

A comprehensive science of life must explain the nature of human intellectual competences and there is every reason to believe that the biological sciences will eventually be able to offer a cogent account of these intellectual phenomena. As mentioned in Frames of mind current findings in the brain and biological sciences bear on two issues. The first issue involves the flexibility of human development. The main tension here centers on the extent to which the intellectual potentials or capacities of an individual or a group can be altered by various interventions. Development may in one point of view be viewed as relatively locked-in,

preordained, alterable only in particulars. From the other point of view, there is far more malleability or plasticity in development, with appropriate interventions at crucial times yielding an organism with a far different range of capacities. The second issue is the identity, or nature, of the intellectual capacities that human beings can develop (Gardner, H. 1983). In learning, MI consists of three domains: analytical, introspective and interactive domains (Razmjoo, S. S., 2008).

According to McKenzie (2002), the analytic domain consists of the logical, musical and naturalist intelligences, interactive domain consist of the linguistic, interpersonal and kinesthetic intelligences, and introspective domains consist of existential and visual intelligences. Gardner (1993& 1999), described linguistic intelligence as sensitivity to spoken and written language and the ability to use language to accomplish goals, as well as the ability to learn new languages. The linguistic domain of intelligence seems to encompass a wide variety of more specific abilities. For instance, Thurstone (1938), differentiated between verbal comprehension and word fluency, whereas Gardner would include both under the domain of linguistic intelligence.

According to Gardner (1993), the students who can understand the problems and learn the mathematics and science better are logically intelligent. One of the primary mental abilities recovered by Thurstone (1938) has been the reasoning domain whose content is subsumed within the definition of Gardner's logical/mathematical intelligence. According to Carroll (1993), reasoning subsumes six factors: general reasoning, verbal reasoning, induction, quantitative reasoning, syllogistic reasoning, and classification ability. According to Gardner, students who possess the spatial intelligence can be successful pilots, sculptures, surgeons, chess players, and architects, and the students possessing musical intelligence can learn music and understand the rhymes better. Any person possessing a special intelligence will learn subject related to his/her intelligence better.

1.1.5. Multiple Intelligences and Learning Foreign languages

MI 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). 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.

Nelson (2033; 119) in support of the quotation above 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 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). According to Poole (2000), clear description of an MI classroom seems to be helpful in understanding the potential of the theory in practice. In cooperative MI classroom, the teacher employs non-traditional approaches to construction of meaning through a flexible but careful planning.

2. Methodology

2.1. Participants

200 high school students were chosen as subjects. 100 of them are male and 100 of them are female. 50 of the boys are in the 2nd grade and 50 of them are in 3rd grade of high school, and among the girls 50 of them study in 2nd grade and 50 of them study in 3rd grade of high school. Totally in Arak City 62078 students study in different high schools, 30344 are female and 31734 are male. Shokrai male public high school and Tarbiat female public high school were chosen randomly. Half of the subjects are female and the other half are male, the subjects are also in second and third grade. The range of their ages for third grade is between 16 and 17 and the range of 2nd grade ages is between 15 and 16. In order for the students to have same features a registration form is given to them, for each field of study, grade and gender 25 students who had the same features were chosen for this study.

2.2. Instrumentation

The instrument used was the Multiple Intelligence Developmental Assessment Scales (MIDAS), a commercially designed instrument which was designed by Shearer in 1996, and Group Embedded Figure Test (GEFT) was used to understand the field dependent/field independent learning strategies of the students. First of all students are given MIDAS test for testing their MI and their scores are recorded and written. Then GEFT test is given to each of them, students who receive the score11 and more are called Field Independent students. Like the previous test their scores are recorded and written. Finally the correlation between multiple intelligences and students' English achievement tests regarding their FD/I learning styles has been shown and written.

2.3. Materials

2.3.1. The MIDAS

MIDAS has been used to determine the subjects' multiple intelligence scores. It is a self report instrument of intellectual disposition designed by Shearer (1996), a professor of MI research from Kent State University, to be completed by respondent. MIDAS is the instrument recommended by Gardner himself for measuring multiple intelligences (Hosseini, S., 2011).

It contains 119 Likert-type (from a to f). The questions cover areas of abilities, interests, skills and activities. There is no right or wrong response, and respondents are asked to read each item and select what they perceive as the best answer at that point in time in their life. Research on the reliability and validity of MIDAS has revealed that the MIDAS scales can provide a reasonable estimate of one's MI (Shearer, 1996). At the time of the present study, the instrument tapped eight of the nine multiple intelligences; existential intelligence, which is one of the recent additions to the list, was not part of MIDAS. It should be mentioned that MIDAS scores are not absolute and it may change during the individual's life as he/she grows up (Hosseini, S., 2011).

2.3.2. The MIDAS Questionnaire

MIDAS is a self-report measure of intellectual disposition; it may be completed by either the user (Shearer, 1996) or, in the case of a young child, by their parents. It takes approximately 45 minutes to complete the 119 multiple-choice questions that cover eight areas of abilities, interests, skills and activities. Users are asked to read each item and select what they perceive as the best answer at that point in time in their life. It is so important that the responses are realistic. Since the MIDAS is not a test, there are no time limits and as all humans differ, there is no right or wrong response. Users are not forced to answer or guess at every question, as each item has an "I don't know" or "Does not apply" choice. Users are asked to select this answer whenever it is the best (Hosseini, S., 2011).

According to Shearer, C. B. (1997) the reliability of MIDAS is .85 (alpha cronbach). A lot of its reliability and validity (Shearer, 1996, 2006) have indicated that the MIDAS scales can provide a reasonable estimate of one's MI strengths and limitations that correspond with external rating and criteria. The MIDAS questionnaire has been completed by approximately 10,000 people world-wide (Hosseini, S. 2011).

2.3.3 Group Embedded Figure Test (GEFT)

In order to distinguish field dependent participants from field independent ones, Group Embedded Figure Test was used. This figure test which is the most widely used version of pencil-and-paper tests in FD/I investigations, has been first developed by Witkin, Raskin, Oltman, and Karp (1971). They reported a Spearman-Brown reliability coefficient of 0.82 for their instrument (Chapelle and Green, 1992; Salmani-Nodoushan, 2007).

According to Khansari, H. R. (2012), The GEFT is a 25-item test that requires participants to locate and trace simple geometric figures embedded within progressively more complex ones. Apart from the initial booklet pages that comprise directions along with some examples to illustrate the procedure for participants, this test has three sections. The first section is a practice section that contains seven simple embedded figures, and it is not scored. The time limit on this section is two minutes.

The real task begins at the second set and into the third one, where the participants have to find the simple geometric figures inside two 9-itemed set within the time limit of five minutes for each. In all the 25 items, the simple forms are present in the complex figure in the same size, the same proportions, and facing in the same direction as when they appear alone. Based on the number of correct answers given by subjects, the scores on GEFT range from 0 (the most FD) to 18 (the most FI).

According to Wang, A. (2007) the reliability of GEFT test is .82 (alpha cronbach) and according to Rittchof (2008), those who intend to rely on external cues are less able to find the simple figures so are field dependent, and those who hinge on internal cues are more able to find the simple figures so are field dependent, and those who hinge on internal cues are more able to find figures, hence, field independent. In this study, participants were identified as either field-dependent (FD) or field-independent (FI). To put it in other words, they were classified with GEFT scores of 11 and less than 11 into the FD group and those with GEFT scores above 11 out of 18 into the FI group.

2.4. Procedure and Design

First, the number of students of high school students studying in Arak city were found out and two high schools were randomly chosen and according to the cluster sampling two or three classes for each field of study were chosen and an application form were given to them in order to choose the subjects of the same features. 25 students out of 50-60 in each field of study were chosen. Then the MIDAS were given to each of the students to find out their intelligences. The next step was giving GEFT test to them and writing their scores. There was no pre-test or post - test or treatment because the research is to find out the relation between two variables. At last the results of the research and some conclusion were drawn.

3. Results

3.1. Descriptive Analysis of Variables

Statistical analysis is an important part of this study. Statistics is a branch of methodology dealing with the collection, classification, description and interpretation of data in a research and it aims to describe deductions about the numerical features of a community. Descriptive analysis is the most important part of analysis in this research. The first step in analyzing data and

description of features of subjects is to know about differences between variables in the model. The technique used in this chapter is distribution charts and columns and also descriptive statistics such as variance, mean, etc. In this chapter these subjects have been dealt with. In table 3.1, descriptive analysis of different variables of this research (MI scores, FD/I learning styles, English achievement tests, ling, total of MI).

Descriptive Statistics							
	N	*Range*	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*	*Variance*
Ling	200	29.00	35.00	64.00	47.0550	6.42013	41.218
A.test	200	13.00	7.00	20.00	15.4850	2.80788	7.884
FD.I	200	16.00	2.00	18.00	10.4850	3.21425	10.331
Total.of.MI	200	119.00	319.00	438.00	386.8950	19.84903	393.984
Valid N (listwise)	**200**						

Table 3.1. ***Descriptive analysis of variables***

According to the table 3.1., the mean of ling is 47.05, and the means of A. test, FD/I, total of MI are 15.48, 10.48, 386.89 (Ling stands for Linguistic Intelligence and A. Tests stands for Achievement Tests).

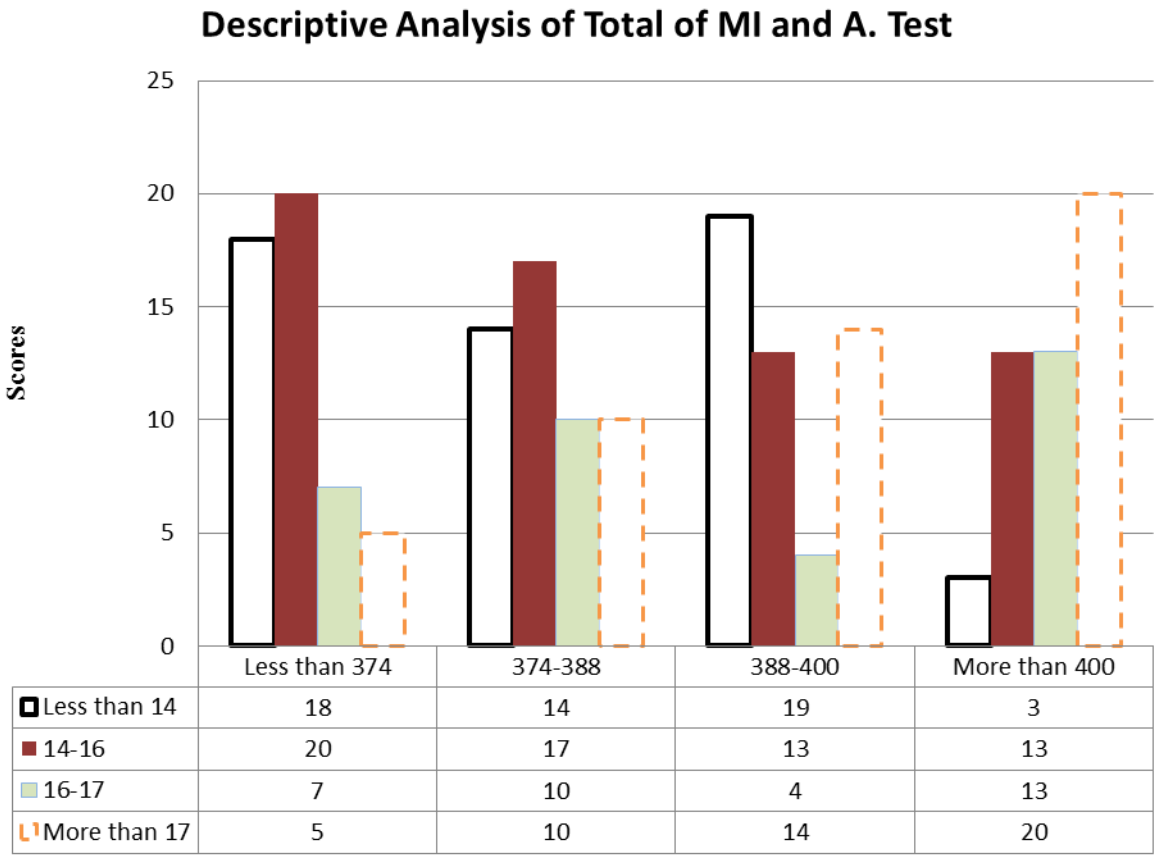
3.2 Analysis of total of MI and English Achievement Test Scores

In table 3.2 and figure 3.1 descriptive analysis of total of MI scores in different levels of A. test has been displayed.

Total.of.MI1 * A.test1 Crosstabulation							
			A.test1				
			Less than 14	*14-16*	*16-17*	*More than 17*	*Total*
Total.of.MI1	*Less than 374*	*Count*	**18**	**20**	**7**	**5**	**50**
		% within Total.of.MI1	**36.0%**	**40.0%**	**14.0%**	**10.0%**	**100.0%**
	374-388	*Count*	**14**	**17**	**10**	**10**	**51**
		% within Total.of.MI1	**27.5%**	**33.3%**	**19.6%**	**19.6%**	**100.0%**
	388-400	*Count*	**19**	**13**	**4**	**14**	**50**
		% within Total.of.MI1	**38.0%**	**26.0%**	**8.0%**	**28.0%**	**100.0%**

More than 400	*Count*	3	13	13	20	49
	% within Total.of.MI1	6.1%	26.5%	26.5%	40.8%	100.0%
Total	*Count*	54	63	34	49	200
	% within Total.of.MI1	27.0%	31.5%	17.0%	24.5%	100.0%

Table 3.2 ***Descriptive Analysis of Total of MI Scores in Different Levels of A. Test***



	Less than 374	374-388	388-400	More than 400
Less than 14	18	14	19	3
14-16	20	17	13	13
16-17	7	10	4	13
More than 17	5	10	14	20

Figure 3.1 ***Descriptive Analysis of Total of MI Scores in Different Levels of A. Test***

3.3 Correlation Analysis of Students' Total of MI and A Tests

In order to investigate the correlation between mentioned variables Pearson correlation coefficient has been used in table 3.3. The null hypothesis (H0) of this test suggests there is no relationship between two variables (r=0). So rejecting the null hypothesis of H0 means two variables are correlated.

Correlations		
	Total.of.	*A.test*

		MI	
Total.of. MI	Pearson Correlation	1	.266(**)
	Sig. (2-tailed)		.000
	N	200	200
A.test	Pearson Correlation	.266(**)	1
	Sig. (2-tailed)	.000	
	N	200	200

Table 3.3 ***Correlation analysis of students' total of MI and A. tests***

The first hypothesis means two variables are independent .

The second hypothesis means two variables are dependent.

Results:

Rejecting the null hypothesis in 0.05 significance level (sig <.05) shows there is a relationship between two variables (total of MI and English achievement tests). The correlation coefficient between these two variables is +.266 which shows that there is a direct relationship between two variables, that is, by increasing the first variable, the second one will increase too.

3.4 Analysis of Total of MI and English Achievement Test Scores

In table 3.4 and figure 3.2 descriptive analysis of linguistic intelligence scores in different levels of A. test has been displayed.

Ling1 * A.test1 Crosstabulation							
			A.test1				
			Less than 14	14-16	16-17	More than 17	Total
Ling1	Less than 42	Count	37	12	5	1	55
		% within Ling1	67.3%	21.8%	9.1%	1.8%	100.0%
	42-46	Count	7	27	11	6	51
		% within Ling1	13.7%	52.9%	21.6%	11.8%	100.0%

	46-52	Count	5	17	12	21	55
		% within Ling1	9.1%	30.9%	21.8%	38.2%	100.0%
	More than 52	Count	5	7	6	21	39
		% within Ling1	12.8%	17.9%	15.4%	53.8%	100.0%
Total		Count	54	63	34	49	200
		% within Ling1	27.0%	31.5%	17.0%	24.5%	100.0%

Table 3.4 ***Descriptive Analysis of Linguistic Intelligence Scores in Different Levels***

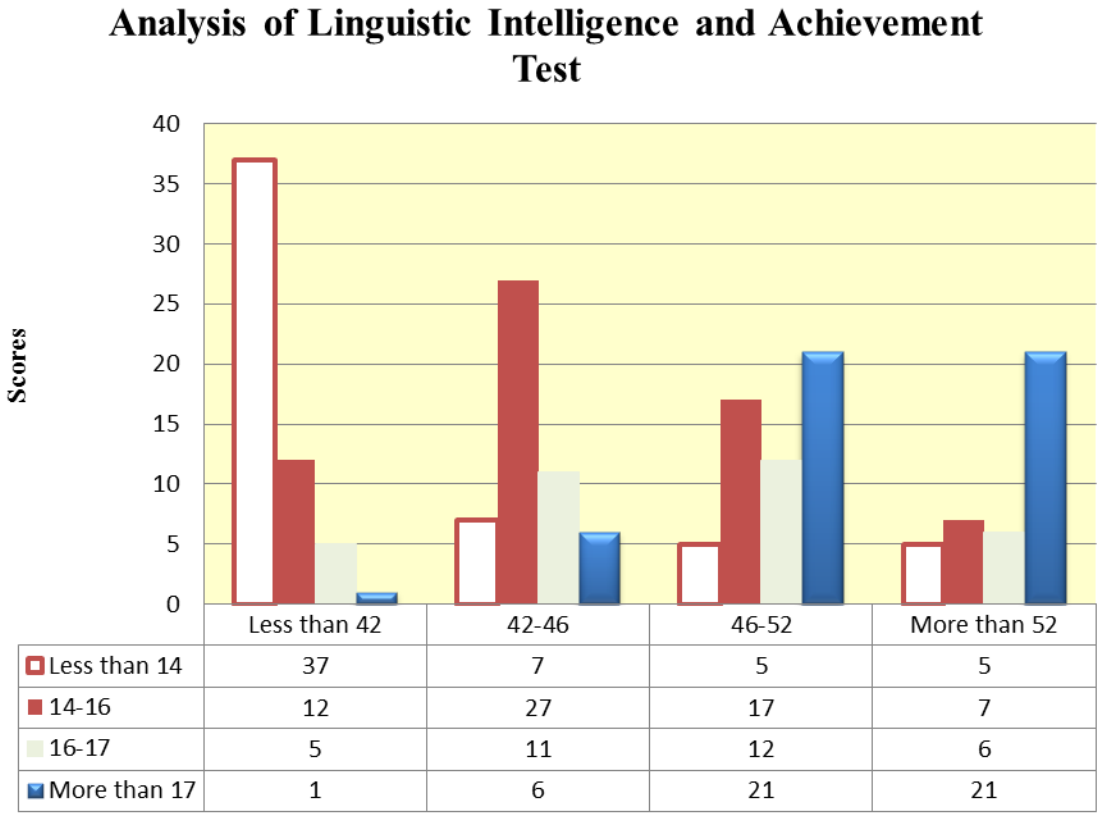


Figure 3.2 ***Descriptive Analysis of Linguistic Intelligence Scores in Different Levels of A. Test***

3.5 Correlation Analysis of Students' Linguistic Intelligence and Their English Achievement Tests

In order to investigate the correlation between mentioned variables Pearson correlation coefficient has been used in table 3.5. The null hypothesis (H0) of this test suggests there is no relationship between two variables (r=0). So rejecting the null hypothesis of H0 means two variables are correlated.

Correlations		
	A.test	Ling

A.test	Pearson Correlation	1	.588(**)
	Sig. (2-tailed)		.000
	N	200	200
Ling	Pearson Correlation	.588(**)	1
	Sig. (2-tailed)	.000	
	N	200	200

Table 3.5 *Correlation Analysis of Students' Linguistic Intelligence and Their English Achievement Tests*

3.5.1. Statistical hypothesis of this research

$$\begin{cases} H_0 : \rho \neq 0 \\ H_1 : \rho = 0 \end{cases}$$

The first hypothesis means two variables are independent.

The second hypothesis means two variables are dependent.

Results

Rejecting the null hypothesis in 0.05 significance level (sig <.05) shows there is a relationship between two variables (linguistic intelligence and English achievement tests). The correlation coefficient between these two variables is +.588 which shows that there is a direct relationship between two variables, that is by increasing the first variable, the second one will increase too.

3.6. Analysis of FD/I Learning Styles and English Achievement Test Scores

In table 3.6 and figure 3.3 descriptive analysis of FD/I learning styles scores in different levels of A. test has been displayed.

FD.I1 * A.test1 Crosstabulation		
	A.test1	Total

			Less than 14	14-16	16-17	More than 17	
FD.I1	Less than 9	Count	17	18	13	20	68
		% within FD.I1	25	26.47	19.11	29.41	100
	9-10	Count	5	18	5	8	36
		% within FD.I1	13.88	50	13.88	22.22	100
	10-13	Count	23	20	8	8	59
		% within FD.I1	38.98305	33.89831	13.55932	13.55932	100
	More than 13	Count	9	7	8	13	37
		% within FD.I1	24.32	18.91	21.62	35.134	100
Total		Count	54	63	34	49	200
		% within FD.I1	27	31.5	17	24.5	100

Table 3.6 ***Descriptive Analysis of FD/I Learning Styles Scores in Different Levels of A. Test***

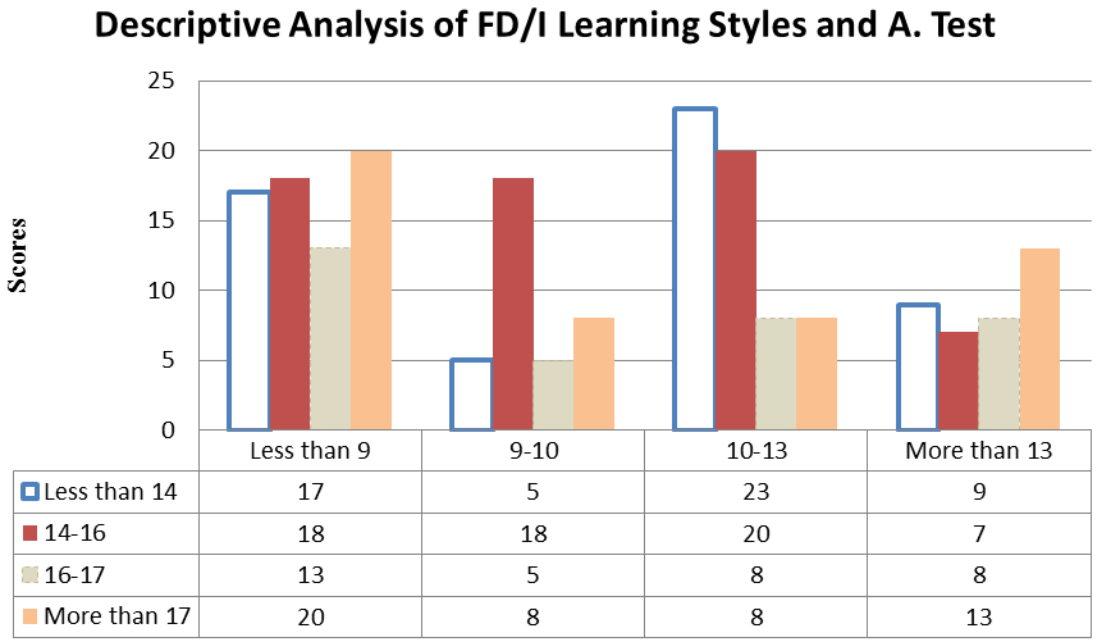


Figure 3.3 ***Descriptive Analysis of FD/I Learning Styles Scores in Different Levels of A. Test***

3.7 Correlation Analysis of Students' FD/I Learning Styles and Their English Achievement Tests

In order to investigate the correlation between mentioned variables Pearson correlation coefficient has been used in table 3.7. The null hypothesis (H0) of this test suggests there is no relationship between two variables (r=0). So rejecting the null hypothesis of H0 means two variables are correlated.

Correlations			
		A.test	FD.I
A.test	Pearson Correlation	1	-.020
	Sig. (2-tailed)		.778
	N	200	200
FD.I	Pearson Correlation	-.020	1
	Sig. (2-tailed)	.778	
	N	200	200

Table 3.7 Correlation Analysis of Students' FD/I Learning Styles and Their English Achievement Tests

3.7.1. Statistical Hypothesis of This Research

The first hypothesis means two variables are independent.

The second hypothesis means two variables are dependent.

Results:

Accepting the null hypothesis in 0.05 significance level (sig <.05) shows there is not any relationship between two variables (FD/I learning styles and English achievement tests).

Conclusion

Guild and Garger stated that "Styles is the most important concept to demand attention in education in many years (and) is the score of what it means to be a person" (cited in Ronald R. Sims and Serbrenial J. Sims, 2006). Of all learning styles developed (Keefe, 1979, Wooldridge, 1995) field independence-dependence appears to have the potential for the improvement of the educational experience. This research proved that different scores in students English achievement test is because of their differences in terms of their multiple intelligences. Sometimes by strengthening some intelligences, one can improve their related subjects in which in this research the subject was English and the intelligence was linguistic intelligence.

References

Abraham, R. G. (1985). Field independence-dependence and the teaching of grammar. TESOL Quarterly, 20(4), 689-702.

Ahmadi, A., & Yamani, M. (2003). Relationship between field dependence/independence and listening comprehension strategy use by female Iranian English majors. Journal of faculty of letters and humanities, Tabriz University, 187, 61-72.

Armstrong, T. (1994). Multiple Intelligences in the Classroom. Alexandria, Va.: Association for Supervision and Curriculum Development.

Bates, W.K. (2008). Using the power of the story to teach emotional intelligence to middle school students. AAT: 3310452.

Baum, S., and Viens. J., and Slatin, B. (2005). Multiple intelligences in the elementary classroom: a teacher's toolkit. Teachers college, Columbia University: New York.

Blanton, E. (2004). The influence of students' cognitive style on a standardized reading test administered in three different formats. Unpublished Ph.D. dissertation. The university of Central Florida, Orlando.

Binet, A., & Simon, T. (1905). Methods Nouvelles Pour le Diagnostique de Niveaux Intellectua des Anormaux [New Methods for the Diagnosis of the Intellectual Level of the Abnoemal].

Brennan, P. K. (1984). An analysis of the relationships among hemispheric preference and analytic/global cognitive style, two elements of learning style, method of instruction, gender and mathematics achievement of tenth-grade geometry students (Doctoral Dissertation, St. John's University, 1985). Dissertation Abstracts International, 45(11), 3271A.

Briere, E.J. (1972). Are we really measuring proficiency with our foreign language tests? In H.B. Allen & R.N. Campbell (eds.), Teaching English as a second languages: A book of readings (2nd ed.). 1972. New York: McGraw-Hill Book Company.

Brown, H.D, (2007). Principles of Language Learning and Teaching. (5th edit). United States of America: Longman.

Brualdi, A. C. (1996). Multiple Intelligences: Gardner's theory. Eric Clearinghouse on Assessment and Education Washington DC, ED 410225.

Carroll, J. B (1993). Human cognitive abilities: A survey of factor-analytic studies. Cambridge: Cambridge University Press.

Chapelle, C. (1988). Field independence: A source of language test variance. Language Testing, 5, 62-82.

Chapelle, C. & Green, P. (1992). Field independence/dependence in second-language acquisition research. Language Learning, 42(1), 47-83.

Chen, S. (2002). A cognitive model for non-linear learning hypermedia programs. British Journal of Educational Technology, 33(4), 449-460.

Christine, C. L. (2003). The effects of student multiple intelligence performance on integration of earth science concepts and knowledge within a middle grades science classroom. (MA Thesis, ED: 479329). Department of Teacher Education of Johnson Bible College

Christodoulou, J. (2009). Applying multiple intelligences. School Administrator, 66(2).

Corno, L., Cronback, L. J., Kupermintz, H., Lohman, D. F., Mandinach, E. B., Porteus, A.

W., & Talbert, J. (2002). Remaking the concept of aptitude: Extending the legacy of Richard E Snow. Mahvah, NJ: Erlbaum.

Daniels, L. (1996). Interaction of cognitive style and learner control of presentation mode in a hypermedia environment. Unpublished Ph.D. dissertation. Virginia Polytechnic Institute and state university, Virginia.

Dornyei, Z., & Skehan, P. (2003). Individual differences in second language learning. In C. J. Doughty, & M. H. Long (Eds.), The handbook of second language acquisition (pp. 589-630). Malden: Blackwell Publishing.

Edwards, O. (2009, February). An interview with the father of multiple intelligences. Edutopia And Smithsonian magazines. Retrieved May 6, 2013 from http://www.edutopia.org/multiple-intelligences-howard-gardner-interview

Freeman, J. (2001). Out-of-school educational provision for the gifted and talented around the world. A Report for the DFES.

Fahim, M., and Nejad Ansari, D. (2006). A multiple intelligence-based investigation into the effects of feedback conditions on EFL writing achievement. IJAL, 9(2), 51-78.

Gagne, F. (1995). From gifted to Talent: A Developmental Model and Its Impact on the Language of the Field. Roeper Review, 18, 103-111.

Gardner, H. (1993). Multiple intelligences: the theory in practice. New York: Basic Books.

Gardner, H. (1983). Frames of mind: the theory of multiple intelligences. New York: Basic Books.

Gardner, H. (1999). Intelligence reframed: multiple intelligences for the first century. New York Basic Books.

Gardner, H. (2006). Multiple intelligences: New horizons. New York: Basic Books.

Guisande, M. A., Paramo, M. F., Tinajero, C., & Almeida, L. S. (2007). Field dependence-independence (FID) cognitive style: An analysis of attentional functioning. Psicothema, 19(4), 572-577.

Hosseini, S. (2011). A study of the relationship between Iranian EFL learners' multiple intelligences and their performance on writing. Unpublished master's thesis, Arak University.

Johnsen, S. K. (2009). Practices for identifying gifted students: No single test can capture a gifted student's dynamic abilities. Waco, Texas.

Keefe, J. W. (1979). Learning Style: An overview. In J. W. Keefe (Ed.) Student learning styles: Diagnosing and prescribing programs. Reston, VA: National Association of Secondary School Principals.

Khansari, H. R. (2012). An investigation of the relationship between field dependence-independence & Iranian EFL learners' performance on C-test.

Kunkel, C. (2009). Schooling built on the multiple intelligences. School Administrator, 66(2).

Mbuva, J. (2003). Implementation of the multiple intelligences theory in the 21st century teaching and learning environments: A new tool for effective teaching and learning in all levels. Retrieved April 14, 2013 from www.eric.ed.gov/?id=ED476162.

McKenzie, W. (2002). Multiple intelligences and instructional technology: A manual for every mind. Eugene, OR: International Society for Technology in Education.

Moran, S., Kornhaber, M., & Gardner, H. (2006). Orchestrating multiple intellingences. Educational Leadership, 64(1), 22-27. National Commission on Excellence in Education (1983). A Nation at Risk: The Imperative for Educational Reform. Washington, D.C.: United States Department of Education.

Pociask, A., & Settles, J. (2007). Increasing student achievement through brain based strategies. Unpublished master's thesis, Saint Xavier University.

Posner, M. (2004). Neutral systems and individual differences: A commentary on Frames of Mind: The Theory of Multiple Intelligences.

Price , S. D. (2001). Multiple intelligences theory and foreign language teaching. AAT: 9999346.

Qazi, M. (2010). The relationship between field-related cognitive styles and global reading comprehension of hypertext. Unpublished master's thesis, Arak University.

Razmjoo, S. A. (2008). On the relationship between multiple intelligences and language proficiency. The Reading Matrix Vol. 8, No. 2, Shiraz University, Iran.

Richards, J. C., & Smidt, R. (2002). Longman dictionary of language teaching and applied linguistics (3rd ed.). London: Longman.

Richards, J. C., & Rodgers, T. (2001). Approaches and methods in language (2nd ed.). Cambridge University Press.

Rittchof, K. A. (2008). Field dependence-independence as visuospatial and executive functioning in working memory: Implications for instructional systems design. Education Technology Research and Development, 56(2), 12-28.

Rubenstein, G. (April, 2009). Brain imagery supports the idea of diverse intelligences. Retrieved from http://www.edutopia.org/multipleintelligences-brain-research.

Ronald, R. S. & Serbrenia, J. S. (2006). Learning Styles and Learning: A key to meeting accountability demands in education. New York: NOVA.

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.

Saricaoglu, A. & Arikan, A. (2009). A study of multiple intelligences, foreign language success and some selected variables. Journal of Theory and Practice in Education. 5 (2):110-122.

Shearer, C. B. (1996). Multiple intelligences developmental assessment scales (MIDAS). United States of America: Author.

Shearer, C. B. (1997). Reliability, validity and utility of a multiple intelligences assessment for career planning. Kent, Ohio: MI Research and Consulting, Inc. www.MIResearch.org.

Shearer, C. B. (2006). Criterion related validity of the MIDAS assessments. Kent, Ohio: MI Research and Consulting, Inc. www.MIResearch.org.

Siegler, R. S. (1992). The other Alfred Binet. Developmental Psychology, 28(2), 183.

Shirley, L. (1996). Pocket guide to multiple intelligences, National Dropout Preventer Center.

Smigiel, N. McKersie. K. Geisel, T. (2004). Different minds learn differently. Saskatoon SK Canada S7J 2H8.

Stanford, P. (2003). P. (2003). Multiple intelligence for every classroom. Intervention in School and Clinic, 39(2), 80-85.

Tannenbaum, A.J. (2002). A History of Giftedness in School and Society. In K. A. Heller, F. J. Monks, R. J. Sternberg & R. F. Subotnik (Eds.) International Handbook of Giftedness and Talent (2nd ed., pp. 23-53).

Tawei Ku, D., & Soulier, S. (2009). The effects of learning goals on learning performance of field-dependent and field-independent late adolescents in a hypertext environment. Health Care Industry, 1-16.

Thurstone, L.L. (1938). Primary mental abilities. Chicago: University of Chicago Press.

Wang, A. (2007). The effects of varied instructional aids and field dependence-independence on learners' structural knowledge in a hypermedia environment. Unpublished Ph.D. Dissertation. The College of Education of Ohio University, Ohio.

Witkin, H., Oltman, P., Raskin, E., & Karp, S. (1971). Embedded figures test: Manual for the embedded figures test. Palo Alto, CA: Consulting Psychologists Press.

Wooldridge, B. (1995). Increasing the Effectiveness of University/ College Instruction: Integrating the results of learning style research into course design and delivery. Greenwood Publishing Group.

Saeid Saadatmanesh
Department of English Teaching
Science and Research Branch
Islamic Azad University
Arak
Iran
saeedsaadat232@yahoo.com