



The Impact of Iraqi Fourth-Year Students' Multiple Intelligences upon their Academic Achievement as Foreign Learners of English

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خلاصة البحث

تبحث هذه الدراسة العلاقة بين الذكاءات المتعددة لطلاب المرحلة الرابعة في قسم اللغة الإنجليزية وبين مستوى إنجازهم الدراسي كونهم متعلمين أجنيين للغة الإنجليزية. اشتملت عينة البحث على 63 طالبا وطالبة من المرحلة الرابعة في قسم اللغة الإنجليزية، كلية التربية للعلوم الإنسانية بجامعة البصرة. استخدم الباحثان مقياس (T_BIMI) لتشخيص الذكاءات المتعددة لدى الطلاب، بالإضافة إلى درجاتهم في الفصل الأول من العام الدراسي 2012-2013 لسبع مواد دراسية كأساس لتقدير مستوى إنجازهم الدراسي. تنص فرضية البحث على أن الذكاءات المتعددة تؤثر على تحصيل الطلاب الدراسي، وأن الذكاءين اللغوي - الشفوي (VLI) والمنطقي - الرياضي (LMI) هما أكثر أنواع الذكاءات تأثيرا على تحصيل طلاب قسم اللغة الإنجليزية. استخدم الباحثان برنامج الحاسوب (SPSS) ومعامل ارتباط بيرسون لغرض إجراء الحسابات الإحصائية الخاصة بالدراسة. ولقد أثبتت الدراسة صحة الفرضية التي افترضها الباحثان.

Abstract

The present study explores the relationship between the fourth-year students' multiple intelligences and their academic achievement as foreign learners of English. The subjects involved in the study are 63 fourth-year students in the department of English, college of Education for Humanities, University of Basra, Iraq. The researchers employ the Teele-Biro Inventory for Multiple Intelligences (T-BIMI) to identify the subjects' sets of intelligences in addition to their grades in the first term of the academic-year 2012-2013, as an indicator to their academic achievement. The study hypothesis states that the subjects' sets of intelligences affect their academic achievement as foreign learners of English, and that the linguistic and logical -mathematical intelligences are the most influential kinds among the others. The SPSS computer program (version 17.0) and Pearson's correlation are used to do the statistical calculations.

1-Introduction

Since its emergence in 1983, Multiple Intelligences theory (henceforth MIT) has attracted much attention because of the new concepts it inserts in many fields of knowledge. It comes up with new concept regarding the nature of intelligence in general, and measuring intelligence in particular. Bulter-Bowdon (2007:117)

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states that Gardner's theory has changed the public understanding of the term "intelligence", because formerly, people accepted the IQ test as a fixed, valid, objective measurement to one's intellectual abilities, according to which the individual's opportunities to succeed in school and life are highly determined.

¹ University of Basrah, College of Education for Human Sciences.

Gardner believes that human intelligence should not be dealt with as a single mental potentiality that may be measured by IQ tests. Rather, human intelligence is best described as "a set of relatively autonomous intelligences" (Gardner, 2011: xii).

2- Basic Concepts of MIT

The basic concepts introduced by MIT can be summarized in the following:

2-1 Multiplicity of Intelligence

Gardner believes that human intelligence should not be dealt with as a single mental potentiality that may be measured by IQ tests. Rather, human intelligence is best described as "a set of relatively autonomous intelligences" (Gardner, 2011: xii). Of course, this is the main difference between the two approaches to intelligence; psychometrics and non- psychometrics. Doorey (2001:272) ensures that Gardner's main belief is that "intelligence is not one general factor that underlies different abilities", but is a combination of a group of basic independent abilities. Sternberg (1990:269), on the other hand, argues that Gardner's theory comprises three main principles, the most important among which is that intelligence is not a single entity. Rather, it is a set of multiple intelligences; each one is distinct from the others, yet, constituting a unique system of capacities.

2-2 Each person possesses all intelligences

Gardner (2006:218) believes that each individual possesses all the kinds of intelligences. However, individuals differ in the degree to which these intelligences are strong or weak. This means that all intelligences work constantly and simultaneously in a way that is "unique to each person" (Armstrong: 2009:15). This uniqueness is due to the difference among persons in their genetic features and their experiences which they got from their environment (Gardner, 2011: xii). Therefore, there should be a sort of a "profile" - as named by Gardner - for each person to describe his/her uniqueness. The profile can specify the distribution of the intelligences for each student according to his/her strengths and weaknesses. Knowing the distribution of intelligences helps the teacher define the preferable learning strategies used by the students and, accordingly, the teaching strategies that best suit the student's intelligences. Armstrong (2009:72) ensures that "MI theory suggests that no one set of teaching strategies will work best for all students at all times. ...so any particular strategy is likely to be highly successful with one group of students and less successful with other groups." Diagram (1)

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illustrates the set of intelligences for subject (1) in the present study and diagram (2) for subject (37):

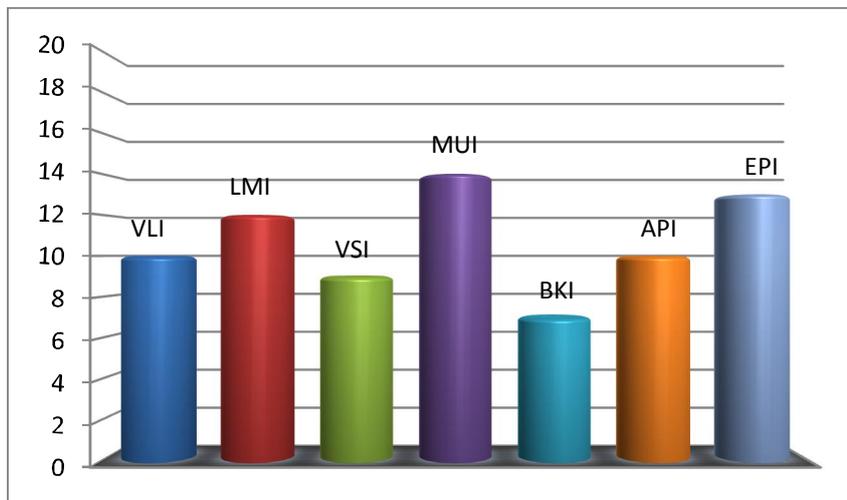


Diagram (A): Subject no.1 distribution of intelligences

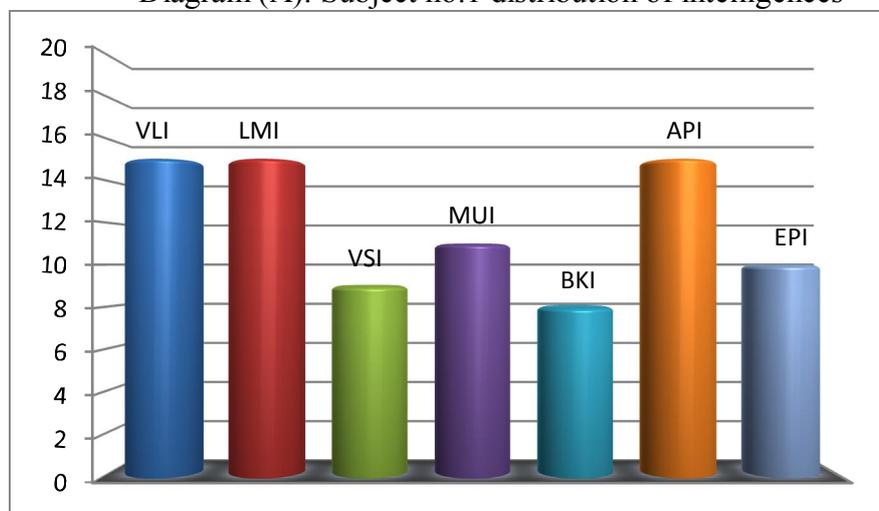


Diagram (B): Subject no.37 distribution of intelligences

2.3 Intelligences can be developed

Despite the fact that genetic factors have a big influence on the degree of prominence - or the strength - of one kind of intelligence over the others, experiences which the individuals are exposed to during their life are also effective. That is to say, it is very possible to develop and enhance certain intelligence by training. Gardner believes that everyone can develop all intelligences to “reasonably high level of performance if given the appropriate encouragement, enrichment and instruction” (Armstrong, 2009:15). The possibility of development contradicts with psychometric beliefs about intelligence. To psychometricians, intelligence is genetically inherited ability that

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can be determined by IQ tests. Doorey (2001:334) focuses on this point by saying that "intelligence became associated with a fixed, innate, hereditary value. That is, one's intelligence, as revealed by IQ tests, was locked at a certain level of what was seen as hereditary basis".

2.4 Intelligences usually work together in complex ways

MIT states that all intelligences work together, i.e. any performance needs a full cooperation among the all intelligences, and none of them can work in isolation. Armstrong (2009:16) ensures that "no intelligence exists by itself in life". Accordingly, when an individual wants to perform an action, he/she will need to make use of the all intelligences. For example , when a person wants to ride a bicycle , he needs to balance himself and stir the bicycle, i.e. bodily-kinesthetic intelligence ; he needs to estimate the distances in front of him and notice things around him, i.e. visual-spatial intelligence ; he needs to reasonably think of how , when or where to stop or turn , i.e. logical- mathematical intelligence,; and he needs also to pay attention to people and things around him, i.e. interpersonal intelligence , in addition to his need to read the signs or the notes on the road, i.e. linguistic intelligence. All these intelligences work together to perform one action, and how well that person in riding the bicycle depends on how well his intelligences cooperate.

2.5 There are many ways to be intelligent within each category

Gardner believes that each intelligence comprises many abilities, and can be manifested by a set of core operations. He defines the core operations as a " basic information processing mechanism" which helps the individual perceive the world(Gardner,2011:68). Actually, there is no " standard" set of features to be used to decide whether an individual possesses certain intelligences or not, however, there are certain core operations discriminate each intelligence(Armstrong, 2009:16). That is, it is not necessary that the individual - possessing specific intelligence - possesses all the core operations associated with that intelligence. For instance, a person could be unable to read but still considered linguistically intelligent, because he can tell well-knitted stories, or possesses huge vocabulary or has a strong persuading style, and so on.

3-Eight Criteria to Specify Intelligence

Gardner assigns eight conditions that should be available in the candidate intelligence to add it to the set of human intelligences. These criteria, in fact, represent a strong theoretical background to Gardner's theory (Armstrong, 2009:8). The eight criteria include the following:

- a- Potential isolation by brain damage
- b- The Existence of savants, prodigies, and other exceptional individuals
- c- A Distinctive developmental history and a definable set of experts "End-state " performances

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- d- Identified core operations or a set of operations
- e- An Evolutionary history and evolutionary plausibility
- f- Support from psychometric findings
- g- Support from experimental psychological tasks
- h- Susceptibility to encoding in a symbol system

4-Kinds of Intelligences

Based on the previously mentioned criteria, Gardner introduces seven kinds of intelligences; linguistic, logical-mathematical, musical, visual- spatial, bodily-kinesthetic, interpersonal, and intrapersonal. That was in 1983 when Gardner first published his book *Frames of Mind: Theory of Multiple Intelligence*. In 1999, he published his book *Intelligence Reframed: Multiple intelligences for the 21st century*, in which he added an eighth intelligence, naturalist, and discusses the possibility of adding one more, existential intelligence. The practical part of the present study is restricted to Gardner's model of 1983. Even though, the eighth intelligence, naturalist, will be discussed in this theoretical survey.

4.1 Verbal-Linguistic Intelligence

Gardner (2011:82) describes the verbal-linguistic intelligence (henceforth VLI) as an ability consisting of four sub- abilities; the ability to use language to convince others to perform an action, the ability to remember words and names and general information, the ability to use language for the sake of explanation and elaboration, and finally, the ability to use language to reflect on language itself, i.e. metalinguistic usage of the language. These four abilities represent, to Gardner, the basic functions of human language. Mainly, linguistic intelligence involves the ability to use language effectively, whether in verbal communication or in writing (Bas and Beyhan, 2010:368). Yet, it can be manifested by a set of core operations. Bulter- Bowdon (2007:117) states that the linguistic intelligence is characterized by the good ability to learn new words, to use language in manipulating others' opinions, and the ability to tell stories. Mehta (2002:9), on the other hand, argues that linguistic intelligence can be identified by sensitivity to all about words, i.e. their sounds, meanings, forms...etc. and the sensitivity to the different functions of language in general.

4.2 Logical-Mathematical Intelligence

This kind of intelligence (henceforth LMI) can be defined as "the ability to use numbers effectively and reasoning well." (Bas and Beyhan, 2010:368). Gardner elaborates on this by saying that "the most central and least replaceable feature of the mathematician's gift is the ability to handle skillfully long chains of reasoning" (2011:147). Hence, the core operations of logical- mathematical intelligence should include the sensitivity to numbers, capacity to discern and recognize logical and numerical patterns (Armstrong, 2009:10). Bulter- Bowdon (2007:117) adds to the preceding operations the ability to analyze problems and

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approach subjects scientifically. The best representations for this kind of intelligence are scientists, researchers, mathematicians, computer programmers, engineers, and the like.

4.3 Musical Intelligence

Musical intelligence (henceforth MUI) can be defined as the ability to “recognize rhythm, pitch, and melody” (Bas and Beyhan, 2010:268). Hence, it is featured with core operations that reveal this ability. Mehta (2002:9) states that musical intelligence includes features like sensitivity to rhythm, pitch, timbre, and tone, in addition to the ability to play a musical instrument, the ability to compose, perform, perceive, or appreciate the musical patterns and the musical performances.

4.4 Visual- Spatial Intelligence

Spatial intelligence(henceforth VSI)- also called visual-spatial - is the ability to recognize forms, shapes, spaces, lines, and colors, in addition to the ability to graphically represent visual and spatial notions (Bas and Beyhan, 2010:368). This entails core operations like the sensitive awareness of the visual world, and the ability to create clear mental images (Cantu, 2000:4). To Gardner, people having strong spatial intelligence can notice the smallest details in figures , shapes and dimensions, and can draw sound images of things they imagine or rotate , in their minds, the pictures and figures as they want without losing their focus(Gardner,2011:185). Best examples of spatially intelligent individuals are artists, painters, sculptors, designers of fashion or furniture ...etc.

4.5 Bodily-Kinesthetic Intelligence

Bodily- kinesthetic intelligence (henceforth BKI) refers to the ability to use one’s mental abilities to coordinate one’s own body movements (Gardner ED, 2). As regards the core operations of bodily-kinesthetic intelligence, Gardner believes that the bodily-kinesthetic intelligent person possesses the ability to learn and explore through movement as well as touching, has a natural sense of coordination in addition to good sense of “balance, grace dexterity and timing”, enjoys or practices physical sports, responds to physical stimulations, and is interested in health, dance, and athletic techniques (Cooper, 2009). Accordingly, best persons representing this type of intelligence are athletes, circus players, gymnasts, knitters, weavers, and the like.

4.6 Intrapersonal Intelligence

Gardner describes the intrapersonal intelligence (henceforth API) as the ability to " access one’s own life- one’s range of affects or emotions: the capacity instantly to effect discriminations among these feelings, and eventually, to label them, to enmesh them in symbolic codes, to draw upon them as a means of understanding and guiding one’s behaviour.”(Gardner, 2011:253) Mehta (2002:9) argues that intrapersonal intelligence comprises the ability to be aware of one’s

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own “strengths and weaknesses, desires and intelligences”. Fyodorova (2005:48) adds other features like the ability to know about oneself as a learner, or generally, to understand oneself.

4.7 Interpersonal Intelligence

Gardner’s interpersonal intelligence (henceforth EPI) means the ability to understand others’ moods, emotions, intentions, actions, or motivations. Or, as Fyodorova (2005:48) describes, the ability to respond “effectively to other people in some pragmatic way”. This entails, of course, the direct impact of society and culture upon the individual’s opinions and attitudes towards the other fellow-citizens. Nevertheless, people differ in their abilities to handle their social relations due to their societies’ nature and their personal experiences. Cantu (2000:4) believes that in order to be interpersonally intelligent, one should have the ability to understand others, and perceive their verbal and non-verbal clues.

4.8 Naturalist Intelligence

Gardner adds this kind of intelligence in 1999 after publishing his book *Intelligence Reframed*. It is characterized by the interest in nature and natural phenomena which motivate scientists , biologists, botanists, geneticists, veterinarians, and the other professionals in the natural sciences (Cooper,2009). Fyodorova (2005:48) mentions that the naturalist person has the ability to recognize and classify plants, animals, minerals, rocks, grass, and all the variety of flora and fauna.

5- MI and Education: Applications

Despite the fact that Gardner, by publishing *Frames of Mind*, addressed the psychologists, the theory received unexpected welcome by educators (Bransford, Brown and Cocking 2000:101). Nevertheless, Gardner (1997:352) ensures that MIT can best be described as a tool to be used by teaching methods rather than describing it as a teaching method by itself. He adds that MIT should never be viewed as “an educational prescription” which can solve all pedagogical problems and learning difficulties, because it is primarily a psychological theory that has been developed “without especial educational goals in mind”. However, Gardner’ theory has made a notable impact on education all over the world. His books are translated into 20 or more languages (Doorey, 2001:272).

Campbell and Campbell (1999:2) justify this wide interest on the part of educators by suggesting three reasons:

1. The theory’s contribution to educators’ knowledge base and belief about the human mind.
2. MIT’s implication for professional practice.
3. The impact of MI programs on students’ achievement.

The first reason indicates that MIT provides educators with a scientific understanding of human intelligence which is parallel to their traditional belief,

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and which helps them analyze the student's intelligence. Bowdon (2007:119) highlights this points by saying "*Frames of Mind* ...actually gives us an appreciation close to what we already know: that we each have different ways of being intelligent". As concerns the second reason, it means that MIT provides educators with practical activities, or workable plans for their lessons. The third reason, however, points out that MIT enables the educators to follow up their students' progress and evaluate their academic achievement both practically and subjectively.

Moreover, Abdulkader, Gundogdu, and Eissa (2009:688) argue that both teachers and learners can benefit from the implications of MIT. They believe that when the teacher uses various teaching styles and strategies, he/she will be able to satisfy the needs of the various abilities and learning styles of the learners. Hence, it can be said that implementing MIT in education involves three main pedagogical concerns; learning strategies, teaching strategies, and evaluating learner's academic achievement.

6- Methodology

6.1 Subjects

The subjects participated in the present study are 63 fourth-year students ; seven males and 65 females .They all students in the Department of English, College of Education for Humanities, University of Basrah. Their ages range between 22-25 years. They all ensure that their answers will be used only for the sake of scientific research and they all agreed to contribute to the test. The students' names are arranged alphabetically so that each subject is given a number to follow up his/her data throughout the study.

6.2 Data Collection

The data used in the study are collected through two main ways; subjects' grades and Teele-Biro Inventory² for Multiple Intelligences (T-BIMI). Regarding the first, the grades of the 63 students are obtained from the examination committee in the Department of English, college of Education for Humanities, University of Basrah. They represent the grades for the first term of the academic-year 2012-2013. The first course is the longest in time and most lecturers depends on its scores to estimate the students' achievement level .The seven courses are included in the study; linguistics, translation, testing, grammar, modern poetry, modern drama, and modern novel. The total mark of each material is 25; 20 for the written exam and five for the oral evaluation of the student's daily activities. AS concerns the Teele-Biro Inventory for Multiple Intelligences (henceforth T-BIMI), it is one of the scales and inventories that have been developed in order to examine and identify the dominant intelligences of students in the different academic stages. It has been invented by Sue Teele in cooperation with Annie Biro within the framework of the Renaissance Project³ (Oxford Preparatory

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Academy blog, 2009). The inventory consists of seven sections, one section for each intelligence. Every section is divided into two subsections; the first includes fifteen items, each one represents a specific core operation that is supposed to be an indicator to the identified intelligence. Subjects are asked to check the items that best describe them. The second subsection is a single statement that describes the individual who is intelligent in the mentioned intelligence. Here, the student is told to rate him/herself in a range five degrees according to how much or less the statement describes the student's character. The second section is a single statement that describes the individual who is intelligent in that specific intelligence. The students are asked to evaluate themselves in number from one to five according to how much the statement matches their personality. The stated number- in addition to the number of the checked items in the first section- will be counted as a total degree of 20. Of course, the final degrees of the seven intelligences for each student as well as for all subjects are tabulated to be dealt with in the SPSS program.

2 This inventory is retrieved from [http : // www .angelfire . com /va/ gkerns /revisedteele .html](http://www.angelfire.com/va/gkerns/revisedteele.html)

3 The Renaissance Project is a research program aims at investigating the impact of MIT in education (Oxford Preparatory Academy blog, 2009).

6.3 Procedure

After collecting the students' scores in the seven academic materials and their degrees in the seven kinds of intelligences, the researcher starts treating them statistically. The computer program, SPSS 17.0, is used to test the correlation among the students' scores in general as well as among their sets of intelligences. Then, the researcher tests the correlation between the students' scores in the seven courses with each kind of the intelligences separately in order to investigate which intelligences affects their academic achievement more directly than the others do.

6.4 Data Analysis

6.4.1 Testing Correlation among Subjects' Scores

The subjects' scores in the seven courses; linguistics, translation, testing, modern poetry, modern novel, grammar, and modern drama, for the first term examination in the study year 2012-2013 , are treated statistically by using Pearson correlation. Calculations reveal that all of the courses correlate with each other in general. Yet, some courses correlate with specific courses stronger than with the others. Linguistics, for instance, is strongly correlated with translation, testing, and modern drama (Table 1). The correlations are .376, .527, and .344 sequentially, all of which are highly significant because $p \leq 0.01$.

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Table (1): Correlation between linguistics and other courses

Linguistics	Translation	Testing	Poetry	Novel	Grammar	Drama
Pearson Correlation	.376**	.527**	.242	.110	.071	.344**
Sig. (2-tailed)						
N						

** . Correlation is significant at the 0.01 level (2-tailed).

Modern poetry, on the other hand, is strongly correlated with testing and modern novel($r=.539$ and $.330$ sequentially) and also correlates with modern drama but on the level of (0.05).Whereas grammar correlates only with modern poetry and testing on the level (0.05) .Tables(2) and(3) show these correlations. Nevertheless, it can be stated that all scores in the seven academics are statistically correlated.

Table (2): Correlations between modern poetry and the other courses

Poetry	Linguistics	Translation	Testing	Novel	Grammar	Drama
Pearson Correlation	.242	.171	.539**	.330**	.221	.285*
Sig. (2-tailed)						
N						

** . Correlation is significant at the 0.01 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Table (3): Correlations between grammar and the other courses

Grammar	Linguistics	Translation	Testing	Poetry	Novel	Drama
Pearson Correlation	.071	.137	.258*	.221	.082	.159
Sig. (2-tailed)						
N						

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

6.4.2 Testing Correlation among Subjects 'sets of intelligences

The second step in analyzing the quantitative data is to find out if there is a correlation among the subjects' sets of intelligences according to T-BIMI. Table (4) shows that there is a significant correlation between verbal-linguistic intelligence (VLI) and logical- mathematical intelligence (LMI), ($r = .250$, $p >$

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0.05). Yet, there is no significant correlation between (VLI) and the other kinds of intelligences.

Table (4): Correlations between VLI and the subjects' degrees in the other intelligences

	LMI	MUI	VSI	BKI	API	EPI
VLI						
Pearson Correlation	250*	-.089-	-.023-	.044	.146	-.085-
Sig. (2-tailed)						
N						

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

However, the musical intelligence(MUI), visual- spatial intelligence (VSI), bodily-Kinesthetic intelligence (BKI),and interpersonal intelligence (EPI) are highly correlated with each other as shown in table(5) below:

Table (5): Correlations among MUI, VSI, BKI, EPI

	MUI	VSI	BKI	API	EPI
MUI		.566**	.440**	.371**	.286*
VSI	.566**		.576**	.371**	.527**
BKI	.440**	.576**		.286*	.600**
API	.371**	.371**	.600**		.136
EPI	.286*	.371**	.286*	.136	

6.4.3 Testing Correlation between Subjects' grades and their sets of intelligences

In order to investigate the hypothesis of the study- that certain kinds of intelligences the subject enjoys can affect his/her academic achievement as a foreign learner of English, Pearson's correlations are used. The researcher employs the subjects' grades in seven courses in the first term of the study-year 2012/2013 as an indicator to their academic achievement because the first term is the longest and mostly used by lecturers to assess the students' achievement. Here follows an analysis to the statistic correlations.

Linguistics

The first course to be tested is linguistics. Linguistics, of course, is one of the essential courses taught to EFLs. It offers the basic information about language as a unique human phenomenon. Calculations (table6) have revealed that there is a highly significant correlation between the students' grades in linguistics and their grades in VLI ($r = .841, p > 0.01$).

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Table (6): Correlation between Lings and VLI

	Lings	VLI
Lings	Pearson Correlation	1
	Sig. (2-tailed)	.841**
	N	63
VLI	Pearson Correlation	.841**
	Sig. (2-tailed)	.000
	N	63

** . Correlation is significant at the 0.01 level (2-tailed).

Testing correlation between students' grades in linguistics and their LMI reveals that there is no significant correlation because it is only (0.203) as shown in table (7) below:

Table (7): Correlation between Lings and LMI

	Lings	LMI
Lings	Pearson Correlation	1
	Sig. (2-tailed)	.203
	N	63
LMI	Pearson Correlation	.203
	Sig. (2-tailed)	.111
	N	63

The same result is obtained for the rest of the intelligences. Hence, linguistics correlates significantly with VLI only, but no significant correlation is obvious with any of the other intelligences as it is clear in table (8) below:

Table (8): Correlation between Lings and VSL, MUI, BKI, API and EPI

	VSI	BLI	MUI	API	EPI
Lings	-.042-	-.035-	-.103-	.006	-.085-

Translation

However, when testing Pearson's correlation between translation and the set of intelligences, it has been found out that translation highly significantly correlates with VLI ($r = 0.544$, $P > 0.01$) as it is shown in table (9):

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Table (9): Correlation between Trans and VLI

	Tran	VLI
Tran	Pearson Correlation	1
	Sig. (2-tailed)	.544**
	N	63
VLI	Pearson Correlation	.544**
	Sig. (2-tailed)	.000
	N	63

Moreover, the correlation is significant between students' grades in translation and their EPI. As shown in table (10), Pearson's correlation calculates ($r = .258$, $P < 0.05$).

Table (10): Correlation between Translation and EPI

	Tran	EPI
Tran	Pearson Correlation	1
	Sig. (2-tailed)	.258*
	N	63
EPI	Pearson Correlation	.258*
	Sig. (2-tailed)	.041
	N	63

EPI is the kind of intelligence that involves the ability to understand others and work with them. Translation, however, is a course that requires reasonable linguistic knowledge in the two languages, i.e. the source and target languages. In addition, it requires a good understanding to the author's intentions that the subjects need to derive from the surface language in order to reach a better translation. As Table(10) shows ($r = .258$, $P < 0.05$). Translation correlates significantly with EPI.

As for correlations with LMI, VSI, BKI, MUI, and API, it appears that there are no significant correlations because Pearson's correlation records low correlations as shown in Table (11):

Table (11): Correlations between translation and LMI, VSI, BKI, MUI, and API

	LMI	VSI	BLI	MUI	API
Trans	.142	-.135-	-.151-	-.103-	.056

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Testing

Testing is a very important course in the department of English, college of Education for humanities because the department aims at training its students to be teachers of English- that means that they have to practice assessment and testing as well as teaching. Accordingly, it is expected to need more than mere VLI to be a good teacher of English. Testing correlation between students' grades in testing and their sets of intelligences shows that there is a highly significant correlation with VLI, ($r = 0.495$, $P = 0.01$), and a significant correlation with LMI, ($r=0.257$, $P = 0.05$) as can be seen in tables (12) and (13):

Table (12): Correlation between Testing and VLI

	Testing	VLI
Pearson Correlation	1	.495**
Testing Sig. (2-tailed)		.000
N	63	63
Pearson Correlation	.495**	1
VLI Sig. (2-tailed)	.000	
N	63	63

** . Correlation is significant at the 0.01 level (2-tailed).

Table (13): Correlation between testing and LMI

	Testing	LMI
Pearson Correlation	1	.257*
Testing Sig. (2-tailed)		.042
N	63	63
Pearson Correlation	.257*	1
LMI Sig. (2-tailed)	.042	
N	63	63

Actually, this is not a surprising result since testing –as an academic course– requires both linguistic and logical skills. When doing testing, the teacher has to define the examinees' linguistic levels and decide what kinds of tests that best suit them. This, of course, demands a good logical thinking as well as good linguistic abilities. As regards the correlation with the other kinds of intelligences, Pearson's correlations, in table (14), show that there is no significant correlation between students' grades in testing and their VSI, BKI, MUI, and API.

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Table (14): Correlations between testing and VSI, BLI, MUI, and API

	VSI	BLI	MUI	API
Testing	.032	-.061-	-.133-	-.085-

Nevertheless, students' grades correlate significantly, but inversely, with their EPI as shown in table (15):

Table (15): correlation between testing and EPI

	Testing	EPI
Testing	Pearson Correlation	1
	Sig. (2-tailed)	-.318 [*]
	N	63
EPI	Pearson Correlation	-.318 [*]
	Sig. (2-tailed)	.011
	N	63

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

Grammar

The last linguistic course to be tackled is Grammar. It is the course where students learn and practice the syntax of English and study Chomsky's transformational generative grammar. Generally, it is almost known that transformational generative grammar is based on logical and mathematical rules. Hence, it is very reasonable to find out that correlation between students' grades in grammar and their LMI is highly significant (0.769) as shown in table (16):

Table (16): Correlation between grammar and LMI

		Grammar	LMI
Grammar	Pearson Correlation	1	.769 ^{**}
	Sig. (2-tailed)		.000
	N	63	63
LMI	Pearson Correlation	.769 ^{**}	1
	Sig. (2-tailed)	.000	
	N	63	63

** . Correlation is significant at the 0.01 level (2-tailed).

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Nevertheless, no significant correlation is figured out between grammar and the other kinds of intelligences- not even with VLI. Table (17) clarifies these correlations.

Table (17): Correlations between grammar and VLI, VSI, BLI, MUI, API, and EPI

	VLI	VSI	BLI	MUI	API	EPI
Gram	.193	.087	.008	-.098-	.005	-.090-

Modern Poetry

Turning to modern poetry-the first literary course- , it is found out that the correlation between subjects' grades in poetry and their VLI is highly significant ($r = .329$, $P = 0.01$) as it is clear in table (18). Nevertheless, no significant correlations figure out between subjects' grades in poetry and their LMI, VSI, MUI, BKI, API, and EPI as table (19) reveals. In fact, in spite of the fact that poetry is a literary course, the students need to understand the meaning of the poems and some information about the poet and the era in which the poem was written. Of course, this kind of information requires memorization more than logical thinking, so that, it is reasonable to find high correlation with VLI and in the same time no correlations are found out with the other kinds of intelligences.

Table (18): Correlation between poetry and VLI

	Poet	VLI
Pearson Correlation	1	.329**
Poet Sig. (2-tailed)		.009
N	63	63
Pearson Correlation	.329**	1
VLI Sig. (2-tailed)	.009	
N	63	63

Table (19): Correlation between Poetry and LMI, VSI, BKI, MUI, API, and EPI

	LMI	VSI	BKI	MUI	API	EPI
Poetry	.077	.035	.012	-.140-	-.060-	-.057-

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Modern Novel

Modern novel is the second literary course to be tackled. Interestingly, Person's correlations do not display any significant correlation with any of the seven intelligences as shown in table (20). However, this can result from many factors. For instance, the lecturer who demonstrates novel to the students is not a specialist in English literature, which means that he could not attract the students' attention and make them be interested in the course, and this will, naturally, be reflected on their academic achievement in novel. Another reason could be the novel itself -as a topic or as a theme- that may not appeal to the students or could be so difficult to them to understand and, accordingly, respond positively with it. Yet, all this is just a possible -not sure- justification to the result obtained in the present study because the researcher is not investigating the reasons behind the availability of the correlations between the students' achievements and their sets of intelligences rather than the reasons behind these correlations.

Table (20): Correlations between Novel and VLI, LMI, VSI, BLI, MUI, API, and EPI

	VLI	LMI	VSI	BLI	MUI	API	EPI
Novel	.076	.101	.153	.116	-.050-	-.123-	-.047-

Modern Drama

The last literary course is modern drama. An important course concentrates on the most famous plays in the modern English literature. Therefore, that it is expected that the subjects who are linguistically intelligent achieve well in modern drama. Pearson's correlations support this expectation. It has been found out that students' grades in modern drama correlate very significantly with their verbal linguistic intelligence ($r = .407$, $P = 0.01$). Table (21) explains this correlation. Moreover, it is found out that modern drama – just like poetry- do not correlate with any of the other intelligences, table (22) below.

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Table (21): Correlation between modern drama and VLI

	Dram	VLI
Pearson Correlation	1	.407**
Dram Sig. (2-tailed)		.001
N	63	63
Pearson Correlation	.407**	1
VLI Sig. (2-tailed)	.001	
N	63	63

** . Correlation is significant at the 0.01 level (2-tailed).

Table (22): Correlation between drama and LMI, VSI, MUI, BKI, API, and EPI

	LMI	VSI	BKI	MUI	API	EPI
Drama	.241	.104	-.049-	.129	.058	-.201-

7. Conclusions

The present study comes out with the following conclusions:

- 1- The statistical calculations have proved that students' sets of intelligences correlate significantly with their academic achievement.
- 2- Verbal linguistic intelligence (VLI) correlates significantly with linguistics, translation, testing, poetry, and modern drama, while logical mathematical intelligence (LMI) correlates significantly with testing and grammar. These findings, however, supports the hypothesis of the study in stating VLI and LMI the most influential intelligences upon the students' academic achievement.

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3- Unexpectedly, novel is the only course that does not correlate with any of the seven intelligences. Yet, this can be resulted from many factors- revealing them is out of the scope of the current study.

8. Recommendations

Depending on the present study, the researcher introduces the following recommendations:

- 1- It is highly recommended to use Multiple Intelligences scales and inventories to determine the prominent kinds of intelligences that are expected to affect the student's academic achievement in the different departments before being admitted. That is, MI inventories could be used in the admission interviews and exams to predict the students' achievement.
- 2- More studies could be made to find out the best ways of using MI profiles in different academic levels in Iraqi schools.
- 3- More studies could be made on how to make use of MIT in developing students' learning strategies and to improve the teachers' teaching strategies.
- 4- It is important to insert the MIT as one of the approaches studied in the teaching method course in a way that can highlight its significance as a psychological base for teaching.

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