

The Interactive Domain of Multi-Intelligence and its Relation to Objective Test of EFL Achievement

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This research aims at identifying the interactive domain of multiple-intelligences and English objective test. The research questions if there is a correlation between the interactive domain of multiple-intelligence and the English objective tests. Thus, the research has adopted a close questionnaire for diagnosing interactive domain (linguistic, interpersonal, and kinesthetic), and an objective English test to achieve the aim of the research. Nine colleges at Baghdad University are randomly chosen to represent the sample of the research, which is 511 students. The results of the research have shown that there are statistically significant correlations between the interactive domain of multiple intelligence and the objective English test. Thus, the objective tests could be used in assessing students' achievement, without neglecting other types of tests such as the continuous long-term assessment, un-timed, free-response format, individualised test, project work and creative answers based on multiple-intelligences.

Key words: *Interactive domain, multiple- intelligence, objective test, English language teaching.*

Introduction

Since tests are instruments developed by teachers to make decisions about students, test development and test administration are inherently political activities. Recently, there has been a growing interest in the application of assessment and test procedures that are radically different from traditional ones. More authentic forms of test, such as portfolios, interviews, project work and self- assessment which are more student-centred in an EFL classroom (Richards and Renandya, 2002). Although Gardner's multi-intelligence theory has been proposed for many years, teachers are less aware of using, and applying the theory in the field of teaching and assessing a foreign language. The tester needs to set the problem that can be

solved in context, rather than memorize a set of rules and grammar (Boonma, 2014). English teachers, as well as university instructors, are concerned about the tests and how they are suited for students' ability. Also, shifting from teacher-centred into learner centred teaching methods, paved the way to investigate other ways of teaching and testing. There is a trend to supplement traditional test designs with alternative tests, that are more authentic in their elicitation of meaningful communication which is untimed, open-ended, seek creative answers, oriented to process, continuous long-term assessment and contain individualised feedback (Brown, 2004). Learning a foreign language is a difficult process. It does not involve learning skills, but it involves the learner's adoption of new social and cultural behaviours and has a significant impact on social nature (Williams, 1994). Objective tests give the probability of the students responding correctly to an item without being sure of facts. Guessing could be a strategy for low ability students to get more marks (Obinne, 2012). Baghdad University policy uses traditional means for testing students. Although, all Baghdad University' Colleges use "New Headway Plus" a series of textbooks for teaching English as a foreign language, they are still adopting traditional testing methods.

The problem of the research depends on the method of testing and assessing English language, which is being followed at Baghdad University. English teachers have adopted traditional testing methods which focus on memorising English rules content but neglect student intelligence abilities, which are part of the learning processes. Objective tests are not suitable to measure students' achievement because students' with low abilities can achieve high marks by guessing. Therefore, many English teachers and instructors in higher education pay attention to knowledge rather than the students' intelligence in the test. Thus, the significance of this research is to answer the question "is there a correlation between the interactive domain of multiple-intelligence and the objective English test?"

The Importance of the Research

The following points show the importance of the research:

1. It contributes to the way that teachers and instructors construct their English tests.
2. Multiple intelligence research raises teachers' awareness of the best ways to develop course materials, teaching methods and testing, which are of paramount importance in the learning/teaching process.
3. It provides information to be taken into consideration by policymakers, language-planners, textbook developers, language instructors, as well as test designers. This research will provide us with opportunities to look differently at the curriculum, instruction, and testing.
4. It helps teachers to design courses and tests that can awaken all kinds of intelligence in their students. So they can take advantage of a variety of games, stories, music, images

as well as different tools and materials intended to encourage all types of learners. As a result, teachers' creativity is strengthened and it frees them from relying on traditional tests. It can encourage them to design a syllabus and tests appropriate for the level of their students' intelligence.

5. It is expected that this research provides new horizons for instructors to adopt student-centred teaching and relinquish traditional teacher-centred teaching. Teachers implement new techniques and students understand lesson goals and objectives, value communicative tasks and activities, generate topics and choose materials, work cooperatively, and identify their own learning strategies and styles (Naqeeb and Awad, 2011).
6. The current research reveals an alternative type of testing, which is more authentic and timeless, suitable for students' multiple-intelligence.

Relevant Studies

There are many studies which have tackled multiple –intelligence as the following:

1. Sadiq, (2019): The study identifies the analytic domain of multiple-intelligence and English objective tests. The study is similar to this current research as it shows there is a correlation between the analytic domain of multiple- intelligence and the English objective tests. Also, the study has adopted a close questionnaire for diagnosing the analytic domain (logical, rhythmic, and naturalistic) of multiple-intelligence of Iraqi students at Baghdad University, and an objective English test to achieve the aim of the research. But the current research is trying to study other domains of multiple-intelligence which is an interactive domain.
2. Madkour and Mohamamed (2016): The study is quasi-experimental one that investigates the effect of MI as integrated abilities for English teaching in higher education. The aim of the research is to examine the impact of students' MI profiles on students' motivation and proficiency. The research prepared a questionnaire with a Likert scale to identify students' MI. The control group is taught according to traditional instructions and relied on memorizing grammatical rules while the experimental group is taught according students' MI profiles. The results show ineffective teaching that relies on memorizing language rules. The study finds a statistical relation between MI and students' motivation and language proficiency (Madkour and Mohamamed, 2016). The previous study has identified the relationship between multiple intelligences domains and students' language proficiency, but the current research identifies the relation between Analytic Domain of MI and English Objective test.
3. Abidi et al. (2013): The study aims to investigate the effect of teaching strategy based on multiple intelligences on students' achievement. Therefore, two groups have been

chosen to fulfil the aim of this study. This study concluded that if students are offered a variety of learning experiences, they will become actively engaged and invested in the learning process. Therefore, students who are taught through multiple intelligence instructions achieved a higher score than the traditional instruction. (Abidi et al, 2013). The previous study was an experimental one but the current research is descriptive research. The previous study investigated students' achievement while the current research focuses on students' achievements in an objective test.

The previous studies have assessed the students' intelligence and this is similar to the current research but the current research is focused on students' interactive domain of MI. There are three points in line with the current research. Firstly, they are used descriptive methods, secondly; the researchers worked with adult learners. Thirdly, the researchers assessed students' intelligence.

The Question of the research

The current research seeks to reveal the connection between the interactive domain of multiple-intelligence and English Objective test by answering the question “ Is there any relation between the interactive domain of multi-intelligence and English objective test?

Methods of the Research

The research follows the descriptive method and adopts procedures to fulfil the aim of the research. It applies a close questionnaire for diagnosing the interactive domain (linguistic – interpersonal- kinesthetic) of Multiple –intelligence and English objective tests to collect data. The following are the operational definitions of the variables which are used in the research:

1. Multiple Intelligence is defined as "an increasingly popular approach to characterising the ways in which learners are unique and to developing instruction to respond to this uniqueness" (Richards and Rodgers, 2001). It is defined as different and autonomous intelligence capacities that result in many different ways of knowing, understanding, and learning about the world to have a better understanding of it (Gardner, 1993 as cited in Razmjoo, 2009).

The operational definition of Multiple Intelligence is the types of intelligence each person possesses to understand, store and retrieve information that can either work independently or together.

2. Interpersonal Intelligence

Perceiving and making distinctions in the moods, intentions, motivations, and feelings of other people relates to interpersonal intelligence. This includes one's sensitivity to facial expressions,

voice, and gestures; the ability to discriminate among many different kinds of interpersonal cues; and how to respond effectively to those cues pragmatically (e.g., to influence a group of people to follow a certain line of action) (Armstrong, 2009). Furthermore, it involves the ability to connect and harmonise with others, to understand their perspectives and opinions, but also to convince others, in order to achieve personal objectives. According to Social Constructivism in education, the importance of interaction between participants in the learning situation is highly emphasised (Arnold and Fonseca, 2004).

This socialising approach in cooperative learning leads to the development of verbal negotiation strategies to convince or to understand the others' point of view and, in turn, this approach will develop this intelligence in the language classroom (Arnold and Fonseca, 2004).

The teaching strategies used for interpersonal intelligence are encouraging collaborative group-work and discussion, modelling emotional intelligence, showing an interest in learners' lives outside school and sharing your life outside the school with your learners (Fleetham, 2006).

3. Linguistic Intelligence

Linguistic intelligence is the learner's capacity to use words effectively, whether orally (e.g., as a storyteller, orator, or politician) or in writing (e.g., as a poet, playwright, editor, or journalist). This intelligence includes the ability to manipulate the structure of language (syntax), the sounds of language (phonology), the meanings of language (semantics), and the practical uses of language (pragmatics), to convince others of a course of action, help one to remember information, explain or communicate knowledge, or reflect upon language itself. Some of these uses include rhetoric (using language to convince others to take a specific course of action), metalanguage (using language to talk about itself) and mnemonics (using language to remember information) (Armstrong, 2009).

People with linguistic intelligence are interested in entertaining themselves with words and verbal games. Linguistic intelligence includes the "Academic verbal", which is a measured self-perception in verbal learning. Learners with linguistic intelligence can learn efficiently by using metaphors and vivid verbal expressions (Tirri and Nokelainen, 2011). The key abilities of Linguistic Intelligence are: (a) perceiving or generating spoken or written language and (b) communicating and sense-making (Baum et al., 2005). The teaching strategies used for linguistic intelligence are explaining in words and lectures, providing opportunities to read, write, speak, listen, persuade, inform, debate, telling stories and sharing your linguistic talents and hobbies with your learners (e.g., Poetry, Acting) (Fleetham, 2006).

4. Bodily-kinesthetic intelligence

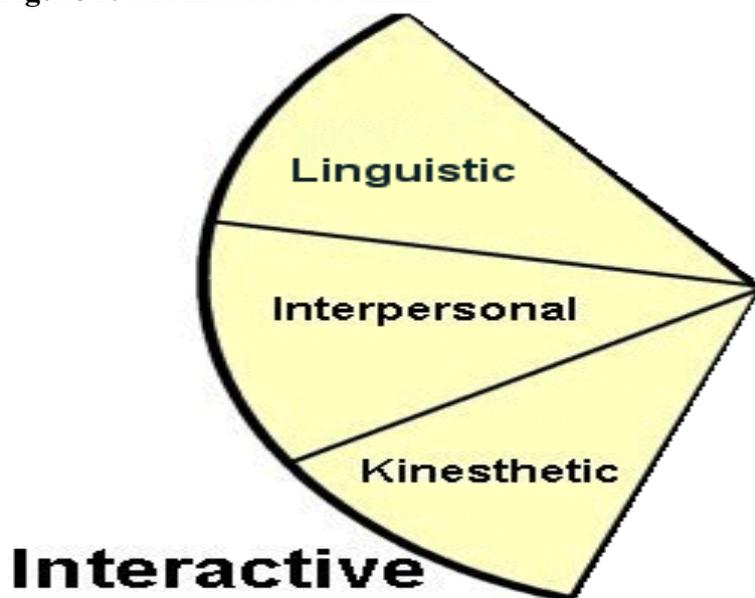
Bodily-kinesthetic intelligence includes one's expertise in using the whole body to express ideas and feelings (e.g., an actor, a mime, or a dancer) and facility in using one's hands to

produce or transform things and the skilful manipulation of objects (e.g., as a craftsman, sculptor, mechanic, or surgeon). This intelligence includes specific physical skills such as coordination, balance, dexterity, strength, flexibility, speed, and tactile capacities (Armstrong, 2009:7).

Bodily-kinesthetic intelligence has a central role in the development of linguistic competence (symbolic and representative abilities) that constitutes the fundamental basis of communication (Torresan, 2010). The key abilities of bodily-kinaesthetic intelligence are: 1) using one's body to create products or solve problems and 2) controlling all or isolated parts of one's body. The individuals who require significant bodily-kinesthetic intelligence are dancers, athletes, actors, coaches, sculptors, surgeons and sign language interpreters. The strategies or products that emphasise bodily-kinesthetic intelligence are dance performance, mime, performance art, play, weaving, painting/other art product sports/games, crafting jewellery (Baum et al., 2005).

5. The Interactive Domain consists of the linguistic, interpersonal and kinesthetic parts of intelligence. These are the parts of intelligence that learners typically employ to express themselves and explore their environment. By their nature, these three components of intelligence are social processes, through interaction with others to achieve understanding. Even if a student completes a task individually, the student must consider others' creating, constructing and making conclusions (McKenzie, 2002).

Figure 1. The Interactive Domain



6. An objective test is a test that can be scored objectively without personal judgment i.e true-false, multiple-choice items (Richards and Schmidt , 2002)

Interactive Domain of Multiple- intelligence Questionnaire

The research has applied a questionnaire to diagnose the interactive domain of multiple intelligences of students. It is based on Howard Gardner's Multiple Intelligence Test (2007). This research utilises the interactive domain of the test which includes three categories: linguistic/ interpersonal/ kinesthetic. Each category consists of 4 questions items. Each item represents certain aspects of the learner's thinking and feeling, it is followed by a five-point Likert scale ranging from (1) never, (2) rarely, (3) sometimes, (4) often, to (5) always. The questions are translated into Arabic language so to collect correct responses especially as English is foreign language taught in Iraq

Validity of the Questionnaire

The close questionnaire has been given to 5 jury member in the field of Psychology and English Language Teaching (ELT) to insure the face and content validity. The percentage of the agreement of the questionnaire is (100%) which is considered a high agreement percentage; therefore, the questionnaire has been adopted without any modification.

Reliability of the Questionnaire

The Cronbach's Alpha is used to measure the reliability of analytic domain of the multiple-intelligence questionnaire. The total score for the three categories is 0.68 which indicates good reliability.

English Objective Test

The test has included six questions each consisting of five items. The first question is true and false sentences depended on reading comprehension. The second question is multiple choice with four options, and the third one is a matching question. While the fourth question is ticking the correct sentence, each item has two options depending on the grammar, the fifth one is putting the words in the correct list (place- job- food). Finally, the last question is to re-order the words to make questions. The English Objective test's questions are selected from "New Headway Plus, intermediate level".

The Validity of the Objective Test

The test was given to the same jury members to ensure its faces and contents validly. The validity of the test is (90%) which indicates a high percentage score. Thus, the test was adopted in the final version test.

The Reliability of the Objective Test

The test was given to 30 students as a pilot study to identify the difficulty and the time required. It was used to test and re-test for reliability. The score has shown good reliability (100%). Also, the reliability statistics score of Cronbach's Alpha is 0.69 of all the six questions. Thus, it indicates good reliability. The test was adopted without any modification.

Sampling Procedures

The subjects of the research are 6211 Iraqi students at Baghdad University. The sample of the research has been chosen randomly as a cluster sample according to the Colleges of Baghdad University (Nursing College- Sciences College- Education College- Physical Education and Science Sport for Women- Agriculture Engineering College- Arts College- Islamic Sciences College- Languages College- Education College- Sciences Education College). The sample of the research is 20% of the subjects of the research. The age of the sample is between (19-23). Many students' forms are excluded because they are above the average age. Also, many students' forms are voided because they have not completed either the test or the questionnaire. Thus, the final size of the sample is 511 Iraqi students at Baghdad University.

Results

The results of the research are analysed according to Statistical Package for the Social Science Software (SPSS) by using correlation.

Statistics and Data Analysis

The mean score of linguistics type is 12.83 while the standard deviation is 3.607, the mean score of kinesthetic type is 15.46 and the standard deviation is 3.264. and the mean score of interpersonal type is 15.04, the standard deviation is 3.261. See table (1).

Table 1: The Mean and Standard Deviation of Interactive Domain

Descriptive Statistics			
	Mean	Std. Deviation	N
linguistic / verbal type	12.83	3.607	511
bodily / kinesthetic type	15.46	3.264	511
interpersonal type	15.04	3.261	511

The Correlation of Interactive Domain and English Objective Test

The results of the research have been analysed to determine whether there is any statistical significant correlation coefficient among the three categories of Interactive domain of multiple intelligence (linguistics, interpersonal, and kinesthetic) and students' English objective test. Spearman's Correlations coefficient is used. Brown (2005) defined correlation coefficient as a numerical value represent the relation of two variables, which range from (+1.0 to – 1.0). See table (2):

Table 2: Correlation of Types of Multiple Intelligence and English Objective Test

Correlations				
		linguistic / verbal type	bodily / kinesthetic type	interpersonal type
linguistic / verbal type	Pearson Correlation	1	.128**	.137**
	Sig. (2-tailed)		.004	.002
	N	511	511	511
bodily / kinesthetic type	Pearson Correlation	.128**	1	.376**
	Sig. (2-tailed)	.004		.000
	N	511	511	511
interpersonal type	Pearson Correlation	.137**	.376**	1
	Sig. (2-tailed)	.002	.000	
	N	511	511	511
**. Correlation is significant at the 0.01 level (2-tailed).				

The results show that the correlation of linguistics type of interactive domain and the objective test is scored (1) which indicates full positive correlation. While the kinesthetic type of interactive domain is scored (0.128) which is also indicates significant correlation at (0.01) level between the objective test and the kinesthetic type of interactive domain of multiple intelligence. Also, the interpersonal type of interactive domain is scored (0.137) which shows significant correlation between this domain and the objective test under (0.01) level.

Discussion of the Results

The results of the research, show that null hypothesis is rejected because there is a relation between the interactive domain and the English objective test. Furthermore, the results of the current research are in contradiction of Sadiq (2019) which revealed that there is no correlation



between the Analytic Domain of multiple intelligence and English objective test. While the results of the research are paralleled with Madkour and Mohammamed (2016), which shows there was a statistically significant relationship between the MI and students' motivation and language proficiency. Also, Abidi et al., (2013) study indicates that there are significant differences between the experimental group, who taught according to the multiple intelligence instructions, against the control group who taught according to the traditional instruction of students' achievement.

The purposes of any test which is carried out is to collect information on students' language proficiency or achievement that can be used by test makers in language learning programs for various purposes such as identifying learners' strengths and weaknesses. Another purpose of the test is to decide what material to present next or what to revise (Carter and Nunan, 2001). Unfortunately, the objective test cannot reflect these two important purposes and even if students' score is low, the English teachers' cannot revise the materials because of the Baghdad University's policy that force the whole College to follow the same textbook. The English teacher must finish the textbook, because there is a new level that is followed in the next year. Furthermore, the objective test cannot discover strengths or weaknesses. Many low achievement students might depend on guessing in this type of test.

The objective test is a good test for English achievement, but it is not the best one. English teachers and instructors could use other types of tests to assess students' achievement which could reflect students' proficiency and Metalanguage. Project work, long-time test, continuous long-term assessment, untimed, free-response format, individualised test, and creative answers based on multiple-intelligence and students' centred approach of English language teaching are other useful tests.



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