

The Study of the Relationship between Multiple Intelligences and Learning Strategies among Iranian EFL learners

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Abstract

This study was an attempt to investigate the relationships between multiple intelligences and learning strategies. To this end, 70 participants were selected after the language proficiency test designed and developed by Richards and Lasely (2007) named "Interchange Language placement" test. The selected participants took two tests, namely, 70-item Likert scale MI Inventory for adults, prepared by Armstrong (1994) as well as learning strategies questionnaire developed by Oxford (1990). In effect, both questionnaires were adopted and their results were correlated using SPSS 15. The results of the study indicated a moderate relationship between meta-cognitive and cognitive strategies with linguistic, musical and bodily-kinesthetic intelligences. The results of the study may pave the way for some improvements in learning and teaching language to students.

Keywords: Multiple intelligences, learning strategies, metacognitive strategy, cognitive strategy, EFL context

1. Introduction

The concept of Multiple Intelligences was presented by Howard Gardner in 1983; though using multiple intelligences theory seems to be new in the horizons of Psychology and Education. It is worth mentioning that intelligence is an elusive concept with diverse definitions.

Considering the fact that terminologies of *intelligent*, *brilliant*, *slow* or *dull* are well-known concepts used by teachers or parents in classifying the children; it is assumed that the concept of intelligence is not something weird or complicated. In effect, every person has an intuitive understanding of the concept of intelligence; and this issue makes many challenges and difficulties in defining intelligence. Gardner argued about eight types of intelligences each person possesses; its extent differs in any person, i.e. linguistic, logical-mathematical, bodily-kinesthetic, spatial, musical, interpersonal, intrapersonal, and naturalist. Recently multiple intelligences theory attracted the attention of so many wise researchers in education-related contexts in order to enhance teaching and learning a foreign language especially English.

There is no doubt that learning strategies are important in the process of learning a foreign or second language; hence learning strategies along with the multiple intelligences should be paid attention to. Oxford (1990) argued that learning strategies are behaviors or actions which learners

use to make language learning more successful, self-directed and enjoyable. In effect, learning strategies, according to O'Malley and Chamot's (1990), are "complex procedures that individuals apply to tasks; consequently, they may be represented as procedural knowledge which may be acquired" (p. 52).

Considering the fact that learning strategies are considered as a crucial element in success or failure of language learners and by paying attention to the fact that multiple intelligences have bilateral relationships, the present study endeavored to answer the following question:

Is there any relationship between cognitive strategies and the eight types of intelligences among Iranian EFL learners?

2. Literature Review

Gardner (1983) introduced Multiple Intelligences (MI) theory in his book, *Frames of mind*, in which he describes different forms of knowledge, which provides a much more comprehensive picture of intelligence. Gardner's theory of Multiple Intelligences utilizes aspects of cognitive and developmental psychology, anthropology, and sociology to provide some basis for the concept of intelligence. Gardner (1983) defines intelligence as "the ability to solve problems or to create products that are valued with one or more cultural settings" (p. 81). Gardner considered eight types of intelligences as following:

Linguistic Intelligence: sensitivity to spoken and written language and the ability to use language to accomplish goals, as well as, the ability to learn new languages.

Logical/ Mathematical Intelligence: this type of intelligence refers to the ability in using and manipulating numbers and language as well as at categorizing, classifying, inferencing, generalizing, calculating and especially hypothesis testing.

Spatial/Visual Intelligence: this type refers to the sensitivity to form, space, color, line and shape. In effect, this type includes the ability to graphically represent visual or spatial ideas.

Musical Intelligence: this type refers to the sensitivity to rhythm, pitch or melody.

Bodily- Kinesthetic Intelligence: it refers to the ability to express ideas and feelings with the entire body through coordination, flexibility, speed, balance, etc.

Interpersonal Intelligence: it refers to the ability to sense another person's moods, feelings, motivations, and intentions.

Intrapersonal Intelligence: it refers to the ability through having an accurate picture of oneself and being aware of one's inner moods, intentions, temperaments and desires.

Naturalist: it refers to the capacity to distinguish among, classify, and use features of natural and artificial environments (botanist, geologist, and archaeologist)

Recently there is the possibility of a ninth intelligence "emotional intelligence". Because of these diverse styles, Gardner's theory was adopted into the world of education as teachers began to teach in multiple ways in an effort to reach the various groups of learners in the classroom (Hopper & Hurry, 2000).

Contrary to the common belief in the United States where it was assumed that intelligence cannot be changed from birth; Gardner (1993) argued that different types of intelligences might undergo different changes through practice. In effect, Gardner (1993) pointed out that there is no connection between what a person accomplishes and their IQ.

There is no doubt regarding the significance of learning strategies because of the major role played by them in cognitive theory. Oxford (1990) argued that "learning strategies are behaviors or actions which learners use to make language learning more successful, self-directed and enjoyable". In other words, learning strategies are the procedures utilized by learners, in making their own

language learning more effective. O'Malley and Chamot (1990) considered learning strategies as complex procedures undertaken by individuals in fulfilling different tasks. In fact, O'Malley and Chamot considered learning strategies as procedural knowledge which are acquirable.

Many researchers (e.g., O'Malley, Chamot, Stewner-Manzares, Kupper, & Russo, 1985; Oxford, 1990; Stern, 1992) have classified learning strategies into different sections. O'Malley, et al (1985), in their study, classified language learning strategies into three classes, namely, socio-affective, cognitive, and metacognitive strategies; Stern (1992) into five classes of interpersonal strategies, communicative-experiential strategies, cognitive strategies, affective strategies, and management and planning strategies; Oxford (1990) into two classes of direct and indirect strategies which are further divided into six classes of cognitive, meta-cognitive, memory-related, compensatory, affective, and social strategies.

3. Methodology

3.1. Participants

90 Iranian students currently studying English in language institutes of Bandar Abbas participated in the present study. In effect, they were 35 female and 35 male students chosen for convenience as well as diversity to allow for a broad perspective on desired purposes. To have a homogeneous population of participants, a language proficiency test developed by Richards and Lesley (2007), i.e. "Interchange Language Placement Test" administered to these students to indicate their level of proficiency and also their homogeneity level. Finally, 70 subjects whose scores were between one standard deviation above and below the mean were chosen.

3.2. Instrumentation

Several instruments were utilized in the process of the development of the present study, namely, "Interchange Language Placement Test" extracted from Richards and Lesley (2007) for determining the homogeneity of the participants, 70-item Likert scale MI Inventory for adults, prepared by Armstrong (1994), and finally an adopted learning strategies questionnaire from Oxford (1990).

3.3 Procedure

In conducting the present study, the 90 subjects went through a language proficiency test developed by Richards and Lesley (2007), i.e. "Interchange Language Placement Test". Finally, 70 homogeneous subjects were selected as the subjects of the study, i.e. 35 female and 35 male students. The selected subjects took two other tests, namely, 70-item Likert scale MI Inventory for adults, prepared by Armstrong (1994), and also an adopted learning strategies questionnaire from Oxford (1990). The results of the study were analyzed in relation to each other.

4. Results and Discussion

The research question in this study was to find out whether there is a relationship between language learning strategies and multiple intelligences of Iranian EFL learners. Table 1 indicates the performances of students on Language Placement Test. As the table shows the mean score was about 47 and a standard deviation was about 5.

Figure 1 illustrates the normal curve of the performances of the students. It seems that the participants have had a similar performance which indicated to their homogeneity.

Table 1. Performances of the students on the proficiency test.

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
						Statistics	Std. Error
Interchange LPT	30	37.00	58.00	46.9857	5.06621	-.064	.287
Valid N (listwise)	30						

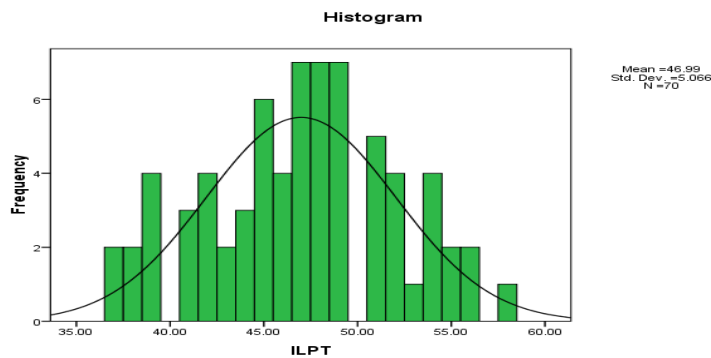


Figure 1. Performance of the students on proficiency test.

The second test administered was multiple intelligences inventory for adults designed by Armstrong (1994) which was adopted and redesigned based on Likert-type in which five scales of "strongly disagree", "disagree", "neither agree nor disagree", "agree", and "strongly agree". Table 2 illustrates the results obtained from this IM inventory Likert-type test.

Table 2. Descriptive statistics for IM inventory Likert-type test.

	N	Sum	Mean
Bodily Kinesthetic	70	124.00	1.7714
Music	70	123.00	1.7571
Math/Logic	70	149.00	2.1286
Linguistics	70	173.00	2.4714
Interpersonal	70	463.00	6.6143
Spatial	70	201.00	2.8714
Intrapersonal	70	405.00	5.7857
Valid N (listwise)	70		

Table 2 indicates the sum and mean score taken by the students in different intelligences. As it is clear from this table, two intelligences, namely, interpersonal and intrapersonal showed some critical difference in comparison to other types of intelligences. In effect, the results of this study indicated that the participants are much stronger in these two intelligences.

Finally, another instrument was a strategy type questionnaire adopted from Oxford (1990) which resulted in the following table:

Table 3. The descriptive statistics for Oxford (1990) learning strategy questionnaire.

	N	Sum	Mean
Cognitive	70	2361	33.73
Compensation	70	1246	17.80
Metacognitive	70	1171	16.73
Social	70	3397	48.53
Memory	70	1350	19.29
Affective	70	1340	19.14
Valid N (listwise)	70		

Table 3 indicated that social and cognitive strategies are the most dominant ones. In effect, social strategy has a sum of 3397 and a mean of 48.53 and cognitive strategy a sum of 2361 and a mean of 33.73. Moreover, it seems that using other strategies are weak among the students.

Finally, Using SPSS 15 correlation was made between learning strategies and intelligences which resulted in table 4.

The results of the correlation indicated that there is a significant relation between Bodily-Kinesthetic intelligence and metacognitive strategy, musical intelligence and metacognitive strategy, and linguistic intelligence and social strategy.

Generally speaking, the correlation coefficient shows a non-significant relationship between the variables of multiple intelligences and language learning strategies. Furthermore, the study identified the types of strategies that are correlated with the multiple intelligences profile score through Pearson product moment correlation.

The results of Pearson coefficient determination analysis are indicative of a low, positive correlation between MI and different strategy types. According to the table, the highest correlation does exist between meta-cognitive strategies and multiple intelligences, followed by cognitive strategies.

The descriptive statistics of the results indicates that Iranian language learners are more willing to use meta-cognitive strategies, followed by social strategies which seem to be vital in communication and learning language.

Hence, the question in which the relationships between strategies and intelligences were investigated proved a positive and low relationship between different types of strategies and intelligences. Furthermore, it was revealed that interpersonal intelligence as a fundamental and

leading intelligence in communication has no strong relationship with the strategies utilized by the learners, instead they resorted to verbal, logical, or social strategies in handling the communication

Table 4. Pearson Correlation between Multiple Intelligences and learning strategies.

	Cognitive	Compensation	Metacognitive	Social	Memory	Affective
Bodily Kinesthetic	-.124	-.155	-.314**	-.201	-.056	-.067
	.305	.199	.008	.096	.644	.581
	70	70	70	70	70	70
Music	.225	.070	.238*	.177	.200	-.031
	.061	.565	.048	.143	.097	.800
	70	70	70	70	70	70
Math/Logic	-.038	.002	.000	.078	.047	-.062
	.756	.989	.997	.521	.702	.608
	70	70	70	70	70	70
Linguistics	-.202	-.087	-.175	-.273*	.013	.005
	.094	.476	.147	.022	.915	.970
	70	70	70	70	70	70
Interpersonal	-.052	-.083	.045	.032	-.003	-.107
	.668	.493	.711	.792	.981	.378
	70	70	70	70	70	70
Spatial	.081	-.064	-.004	.147	.019	.034
	.506	.601	.976	.224	.875	.780
	70	70	70	70	70	70
Intrapersonal	-.009	.044	.058	-.078	.182	.025
	.942	.719	.636	.519	.132	.839
	70	70	70	70	70	70

Note * $p < .01$, ** $p < .005$

5. Conclusion

In this study, the focus was on studying the relationship between multiple intelligences and learning strategies among Iranian EFL learners. The findings of the study have brought to light several implications of MI pertaining to the use of leaning strategies including cognitive and

metacognitive strategies among Iranian EFL students. A recommendation for future research would be to conduct a much larger study by considering the age and gender effect, as well as proficiency level in order to confirm these findings. It is the teachers' responsibility to consider the role of linguistic, musical and bodily-kinesthetic intelligences when they want to teach different learning strategies during English classrooms and to create more opportunities for students with different kinds of intelligence to adapt themselves well during teaching as they may need additional support and the highest quality of instruction and materials at their instructional level. For instance, multiple programs such as appropriate materials, extra reading classes and remedial lessons should be provided for those learners, who are weak in one of these strategies in order to meet their needs and .

However, it is worth mentioning here that although the theory of MI has received a great deal of interest worldwide, it still needs to be refined carefully as different findings reveal that the theory is not well established yet and needs more time and studies to be grounded .

Furthermore, as Karbalaei (2008) believes, research evidence may not be useful in education if findings are not applied in classroom settings. Even though cognitive and metacognitive strategies are considered to be of value for adequate text comprehension, classroom teachers often fail to teach this process. While some teachers used these strategies more often, most of the teachers did not consider it necessary to see that the students were aware of the use of such strategies. Another issue is that most teachers are not able to discover the different kinds of intelligence learners are equipped with because they are not aware of them themselves.

Finally, it is hoped that the findings of research Iranian EFL contexts will shed some light on blurred issues in learning strategies and their relationship with multiple intelligence .

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