

The Relationship between Multiple Intelligences and Motivational Strategies

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Abstract

Among the models presented about motivation in educational setting that of Dornyei (2001) has appealed more to language teaching practitioners. Another strand of research, which falls within the realm of learner variables, is the concept of intelligence. The mode of Multiple Intelligences, put forward by Gardner (1983), has revolutionized our understanding of the traditional intelligence quotient. In this study, attempt was made to find how Iranian learners are different or similar regarding the way motivation is handled by teachers in the classroom and the probable effect of their multiple intelligences on learning English as a foreign language. The participants were 100 Iranian female English learners, who were in the final year of three-year secondary school education between 17 to 18 years of age. The participants' intelligence and motivational strategies information was collected through a multiple intelligences questionnaire and a motivational strategies questionnaire. It was found that verbal- linguistic intelligence was positively and significantly correlated with some motivational strategies. Furthermore, it was concluded that some specific motivational strategies were significantly preferred by the language learners.

Keywords: Motivational strategies, Intelligences, Multiple Intelligence

1. Introduction

Multiple factors, including linguistic and extra-linguistic factors are known to influence the acquisition of a second language. The linguistic background of the learners, which relates to issues like the proximity between the native language and the second language, is highly important and determines learning performance. Moreover, extra-linguistic factors, like motivation, memory, and attention have been shown to influence the learners' performance. The quality and quantity of an individual's motivation can change over time, and they can be influenced by external factors. SLA research views motivation as a key factor in L2 learning. There have been differences, however, in the way in which teachers and researchers have typically conceptualized motivation.

The research as well as the common sense indicates the saliency of motivating learners in terms of showing them the relation between the subject matter they learn and their present or future lives. This is the most basic conception of motivation when one talks about it. However, like other variables in social sciences, this construct needs to be clearly defined. This was done by Zoltán Dörnyei (2001) through his book of *Motivational Strategies in the Language Classroom*. In this book, Dörnyei presented a comprehensive collection of strategies, which focus on three stages of generating initial motivation, maintaining motivation, and self-evaluation in a language classroom. Through this book, Dörnyei made clear about some points to increase motivation in language classrooms. The first was the fact that "motivational strategies, even those which are generally the most reliable, are not rock-solid golden rules, but rather suggestions that may work with one teacher or group better than another, and which may work better today than tomorrow" (p. 30). This fact is one target of the present study. In other words, the study is concerned with the motivational strategies, which are favored by Iranian learners. In addition, the study explores the significant relationship between motivational strategies and emotional intelligence of the participants.

Intelligence, as another extra-linguistic factor is presently an issue which is attracting growing attention. In our education system, the concept of intelligence is still that of the traditional conception of intelligence quotient. In the

early twentieth century, the assessment of a person's intelligence was carried out using an intelligence quotient (Intelligence Quotient). The Intelligence Quotient test mainly measures a person's ability in terms of their performance in linguistic, logical-mathematical and also some visual spatial tasks. However, this kind of testing does not measure other skills/ talents of a given person. According to Gardner (1983, 1999), human minds do not work in the same way, and they exhibit different profiles of cognitive strengths and weaknesses. Since the education systems have stressed the importance of developing mathematical and linguistic intelligences, it often bases student success only on the measured skills in those two intelligences. Supporters of Gardner's theory believe that this emphasis is biased, unbalanced, and unfair. As educators, we must seek to assess our students' learning needs in the ways which will provide a clear picture of their strengths and weaknesses.

Intelligence is the variable whose effect on learning is investigated in terms of preferred intelligences and its relationship with motivational strategies. Some motivational strategies work better in some occasions and with some learners than others.

2. Review of the Related Literature

2.1 Multiple Intelligences versus Traditional Intelligence Quotient

In the early twentieth century, the assessment of a person's intelligence was carried out using an intelligence quotient (IQ). The Intelligence Quotient test mainly measures a person's ability in terms of their performance in linguistic, logical-mathematical and also some visual spatial tasks. However, this kind of testing does not measure other skills/ talents of a given person. According to Gardner (2007), human minds do not work in the same way, and they exhibit different profiles of cognitive strengths and weaknesses.

Since all children do not learn in the same way, they cannot be assessed in the same way. Knowing how each student learns will allow the teacher to properly assess the child's progress (Lazear, 1992). This kind of evaluation practice will allow a teacher to make more informed decisions on what to teach and how to present information.

Gardner's (2007, 1999) research studies revealed a wider view of human intelligence than it was believed previously. It gave us a pragmatic definition of the concept of intelligence. The multiple intelligences theory has been widely used as a framework for research in the field of learning and teaching in general. Through the book *Frames of Mind*, Howard Gardner challenged the dominant concept of intelligence as "an overall ability dealing with linguistic and mathematical abilities". The two kinds of intelligence, verbal and computational, were the only recognized modules of human intelligence at that time. Based on that framework, intelligence is a uniform cognitive capacity one is born with, and this intelligence was believed to be measurable through short-answer tests.

2.2 Applications of Multiple Intelligences in Education

Gardner's theory has several implications for teachers. One implication is that all eight intelligences are needed to productively function in society. Therefore, education planners should think of all intelligences as equally important. This is at variance with traditional education systems, which typically place a greater emphasis on the development and use of verbal and mathematical intelligences. Thus, the Theory of Multiple Intelligences implies that educators should recognize and teach a broader range of talents and skills.

A second implication is that teachers should structure class activities and tasks in a way that incorporates most of the intelligences, if not all of them. For example, when teaching about the revolutionary war, a teacher can show students battle maps, play revolutionary war songs, and do similar teaching activities. This kind of presentation not only excites students about learning, but also it allows a teacher to reinforce the same material in a variety of ways. By activating a wide assortment of intelligences, teaching in this manner can facilitate a deeper understanding of the subject material.

All students come into the classroom with different sets of developing intelligences. This means that each learner will have their own set of intellectual strengths and weaknesses. These sets determine how easy or difficult it is for a student to learn information when it is presented in a particular manner. This is commonly referred to as a learning style. Many learning styles can be found within one classroom. Therefore, it is impossible as well as impractical for a teacher to accommodate every lesson to all of the learning styles found within the classroom. Nevertheless the teacher can show students how to use their more developed intelligences to assist in the understanding of a subject which normally employs their weaker intelligences (Lazear, 1992). For example, the teacher can suggest that an especially musically intelligent child learn effectively about the revolutionary war by making up a song about what happened.

In a nutshell, the Multiple Intelligences theory provides a theoretical foundation for recognizing the different abilities

and talents of students. This theory acknowledges that while all students may not be verbally or mathematically gifted, children may have an expertise in other areas, such as music, spatial relations, or interpersonal knowledge. Approaching and assessing learning in this manner allows a wider range of students to successfully participate in classroom learning (Owolabi, & Okebukola, 2009)

2.3 Motivational Strategies

Dörnyei (2001) defines Motivational Strategies as techniques that promote the individual's goal-related behavior. Because human behavior is rather complex, there are many diverse ways of promoting it. In fact, almost any influence a person is exposed to might potentially affect their behavior. Motivational strategies refer to those motivational influences, which are consciously exerted to achieve some systematic and enduring positive effect. He recognizes four components of motivational teaching practice in the L2 classroom:

- Creating the basic motivational conditions
- Generating initial motivation
- Maintaining and protecting motivation
- Encouraging positive retrospective self-evaluation

Accordingly, motivational strategies cannot be employed successfully in a 'motivational vacuum'. Certain preconditions must be in place before any further attempts to generate motivation can be effective. He considers the following three motivational conditions as indispensable conditions:

- appropriate teacher behaviors and a good relationship with the students;
- a pleasant and supportive classroom atmosphere;
- a cohesive learner group with appropriate group norms.

Also, there is the central issue of *teacher expectations*. This issue highlights the teacher's role as the prominent motivator. It has been shown by a convincing amount of research that it is not enough to be merely committed to the students' academic progress. You also need to have sufficiently high expectations for what the students can achieve. This effect has also been referred to as the 'Pygmalion effect' after Bernard Shaw's play. In other words, if you yourself believe that your students can reach high levels of achievement, there is a good chance that they will do. However, if you have low expectations about how much your students can cope with, they will probably 'live down' to these expectations. This means, for example, that ability grouping is a dangerous practice because teachers who are to teach the low-ability groups are bound to be influenced by this knowledge, which may send the children an ever downward spiral of low achievement and low expectations. (Dörnyei, 2001, p. 35).

3. Research Questions

The present study aims to answer the following questions:

- Are there any motivational strategies, which are markedly viewed as more significantly appealing by Iranian EFL learners?
- Is there any significant relationship between Iranian EFL learners' multiple intelligences and their preferences for motivational strategies?

4. Method

4.1 Participants

The participants were 100 Iranian English learners, learning English as a foreign language. All of them were female students at public high schools in the final year of the three-year secondary school education between 17 to 18 years of age, with intermediate language competency. There was a population of 134 students available. After an initial proficiency test, a sample of 100 participants at the intermediate proficiency level was selected. Through this screening, a more homogeneous sample became available.

4.2 Proficiency Test

A reading test from Steps to Understanding book, which has 30 items with the reliability of (0.75) was administered to homogenize the students. Students had 30 minutes to complete the test.

4.3 Multiple Intelligences Questionnaire

This questionnaire was derived from Gardner's (2007) Intelligence Quotient test. It included 70 items. It was piloted on 25 similar participants. In this study, only the items that were concerned with musical, spatial and linguistic intelligences were investigated. The reliability index using Cronbach alpha was .92, which was a high index (Hatch & Farhadi, 1981). It was also checked by some language experts on the content. For the sake of clarity, the questionnaire was translated into Persian, the mother tongue of the participants.

4.4 Motivational Strategy Questionnaire

Ten motivational strategies out of 35 available were selected as the most practiced ones based on teacher's experience. The questionnaire was derived from Dörnyei (2001). There is also a part in the questionnaire that asks about the students' idea about the practicality of these strategies. The reliability index using Cronbach alpha was .85, which was a high index. For the sake of clarity, the questionnaire was translated into Persian, the mother tongue of the participants. The strategies that the teacher should incorporate when designing the questionnaire are as follows based on Dörnyei (2001):

1. Demonstrate and talk about your own enthusiasm for the course material, and how it affects you personally.
2. Take the students' learning very seriously.
3. Promote the learners' language-related values by presenting peer role models.
4. Raise the learners' intrinsic interest in the L2 learning process.
5. Promote 'integrative' values by encouraging a positive and open-minded disposition towards the L2 and its speakers, and towards foreignness in general.
6. Promote the students' awareness of the instrumental values associated with the knowledge of an L2.
7. Make learning more stimulating and enjoyable by breaking the monotony of classroom events.
8. Build your learners' confidence by providing regular encouragement.
9. Increase student motivation by promoting cooperation among the learners.
10. Use grades in a motivating manner, reducing as much as possible their demotivating impact.

4.5 Procedure

Dörnyei (2001) enumerates 35 motivational strategies; however he acknowledged that not all these strategies are applicable to a given class. Therefore, ten cases, which seemed to be more relevant and applicable based on the teacher's experience, were selected. At the end, the students assessed the usefulness of these strategies through a motivational strategy questionnaire, they filled in. The devoted time for answering the questionnaire was 10 minutes.

Through a further questionnaire, the researcher surveyed the students' multiple intelligences. The devoted time for answering the questionnaire was 20 minutes.

4.6 Data Analysis

The data obtained from the questionnaires was used to test the proposed hypotheses. The statistical procedures used in this study were frequency, percentage, descriptive statistics, and correlation coefficient.

One of the independent variables of the present study is the multiple intelligences. We treated the presence (or p) of an intelligence for a learner as 1 and its absence (or a) as 0. That is, based on the results made accessible through the Multiple Intelligences questionnaire, we know that which learner possesses or lacks what intelligences. If they were known to have intelligence, they were labeled as 1 for that intelligence. When the p value is multiplied by 100, it turns into a percentage, which is the percentage of students that possess the intelligence. All calculations were carried out using the IBM SPSS 19 Software.

5. Results and Discussion

Table 1 shows the distribution of intelligences among the students. As it is evident in Table 1, there were 35 cases reported as possessing a prominent musical intelligence, with 43 linguistic/ verbal, and 20 spatial intelligence cases among the total of 100 students.

Table 1. Frequency of the intelligences for each student

Student	Musical	Linguistic	Spatial	Student	Musical	Linguistic	Spatial
1	1	1	0	51	0	0	0
2	0	1	0	52	0	1	1
3	0	0	1	53	1	0	0
4	1	0	0	54	0	1	0
5	0	0	1	55	1	1	0
6	0	1	0	56	0	0	1
7	1	0	0	57	1	0	0
8	0	0	0	58	0	0	0
9	0	1	1	59	0	1	0
10	1	1	0	60	0	0	0
11	0	1	0	61	0	1	0
12	1	0	0	62	1	0	0
13	0	1	0	63	1	0	1
14	0	0	0	64	0	1	0
15	1	1	0	65	1	0	0
16	1	0	1	66	1	0	0
17	0	1	1	67	0	1	0
18	0	0	0	68	0	1	0
19	1	1	0	69	1	1	0
20	0	1	0	70	0	0	0
21	1	0	0	71	0	1	0
22	0	0	0	72	0	0	0
23	0	1	1	73	0	0	0
24	1	0	0	74	1	1	1
25	0	0	0	75	0	0	0
26	0	0	1	76	1	1	0
27	0	0	0	77	0	1	0
28	0	0	1	78	0	0	0
29	1	0	0	79	1	0	0
30	0	1	0	80	0	1	0
31	0	1	0	81	1	1	1
32	0	0	0	82	0	0	1
33	1	1	0	83	0	0	0
34	1	1	0	84	0	1	0
35	0	0	1	85	1	1	0
36	0	0	0	86	0	0	0
37	0	1	0	87	1	0	1
38	0	0	0	88	1	1	0
39	1	1	0	89	0	0	0
40	0	0	0	90	1	1	0
41	1	1	0	91	0	0	0
42	0	0	1	92	0	0	0
43	0	0	0	93	0	1	0
44	0	0	0	94	0	0	0
45	0	0	0	95	1	1	0
46	0	0	0	96	0	0	0
47	1	1	0	97	0	0	1
48	0	0	0	98	0	1	0
49	0	1	0	99	1	0	0
50	1	0	1	100	0	0	1

The data of the questionnaire asking the students which of the 10 motivational strategies, presented in the questionnaire, were more effective is presented in Table 2. These strategies were mentioned before. They are presented in the Table 2 with the same order in terms of the numbers used, 1-10 corresponding to a-j. Students were asked in to check three strategies, which they reckoned as more interesting or effective, without any further weighing. Table 2 demonstrates the frequency of the strategies evaluated by the students.

Table 2. Frequency of motivational strategies

Strategy	a	b	c	d	e	f	g	h	i	j
Frq.	23	32	21	15	33	32	34	35	40	35

A look at the table makes it clear that strategy (i) stands out with a rather big margin from other cases, “increase student motivation by promoting cooperation among the learners”. Any discussion about the *why* of this incidence is out of the question and not within the scope of this study; however it could be stated that it underlines most probably the needs that the students feel, and the same could follow for other cases.

Next in frequency are h and j strategies, “build your learners' confidence by providing regular encouragement” and “use grades in a motivating manner, reducing as much as possible their demotivating impact” respectively.

Other cases which fall above the mean of 30 are g, e, b, and f strategies. The strategies are “make learning more stimulating and enjoyable by breaking the monotony of classroom events”, “promote ‘integrative’ values by encouraging a positive and open-minded disposition towards the L2 and its speakers, and towards foreignness in general”, take the students' learning very seriously”, and “promote the students' awareness of the instrumental values, associated with the knowledge of an L2” respectively.

This is while other strategies seem to have not been as important as the mentioned cases, with strategy d “raise the learners' intrinsic interest in the L2 learning process” ranking the lowest, then strategy c “promote the learners' language-related values by presenting peer role models” and finally strategy a “demonstrate and talk about your own enthusiasm for the course material, and how it affects you personally”.

Figure 1 shows the frequency of use of each strategy.

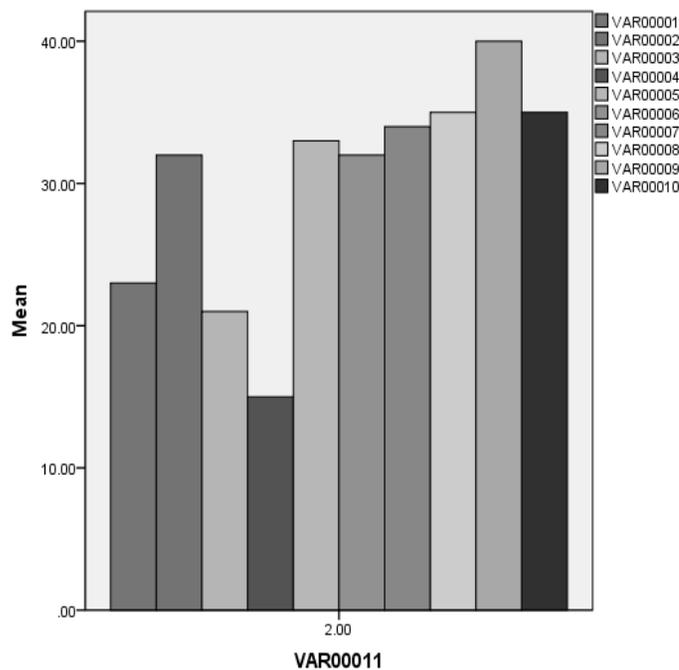


Figure 1. Popularity of motivational strategies (in the order of a-j)

Table 3 summarizes the details of the correlation of the intelligences and the evaluation of the strategies by the students. The analysis showed that there was the highest significant correlation coefficient between linguistic/verbal intelligence and strategy b.

Table 3. Correlation of linguistic/ verbal intelligence and motivational strategies' ranking

		Linguistic/ Verbal	Strategy 2
Linguistic/ Verbal	Pearson	1	.227*
	Correlation	100	.023
Strategy b	Pearson	.227*	1
	Correlation	.023	100

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

The correlation is significant at a level of 0.05. This is to say that there is a go togetherness in such a way that students who possess a Linguistic/ Verbal intelligence tend to rate strategy b “take the students' learning very seriously” as more important. The other intelligences or visual-spatial and musical were not significantly correlated with any motivational strategies.

The first finding is related to the strategies and the preference for strategies on the part of the students. It must be noted that the learners' views on the effectiveness of the strategies may not be necessarily the real indications of the effectiveness of these strategies. It could also be the subject of further research whether the preferred strategies are really effective in reality in terms of students' outcomes.

Among the ten strategies, strategy i “increase student motivation by promoting cooperation among the learners” was rated as the most popular with a score of 40. The next in frequency were strategies h and j, “build your learners' confidence by providing regular encouragement” and “use grades in a motivating manner, reducing as much as possible their demotivating impact” respectively. Strategy i is about building a feeling of community in the class, which is mostly absent from our classes. Cooperation plays down the possible negative effects of competition among learners and decreases anxiety. Cooperative learning involves students working together in small groups to accomplish shared goals (Gillies et al, 2007). A curriculum or classroom that is cooperative involves the learner-centered characteristics (Brown, 2001). The advantages for cooperative learning as opposed to individual learning involve factors like “promoting intrinsic motivation”, “heightening self-esteem”, “lowering anxiety and prejudice”, etc. (Oxford, 1996, 445).

Strategy h concerns the very act of encouraging. Regular encouragement is sometimes forgotten or underestimated in the class. Apart from the intrinsic motivation that a few learners might develop, the other majority should be praised at each achievement to help them stay motivated.

Then, it comes strategy j “use grades in a motivating manner, reducing as much as possible their demotivating impact”. It is sometimes witnessed that teachers use grades to intimidate learners. Or some teachers may use grading as a tool to bring order their class.

Three intelligences were studied. It was found that the linguistic-verbal intelligence is positively and significantly correlated with the second strategy “take the students' learning very seriously”. This strategy is more salient and motivating. Strategy b is concerned with the way teacher deals with the learning, the timing of the tasks, and whatever behavioral action that attaches importance to the act of learning in the eye of the learner. This correlation was significant at a level of freedom of 0.05. However, this does not necessarily have any indication of a cause-effect relationship. The *why* of this correlation is subject to further studies. The other intelligences or visual-spatial and musical were not significantly correlated with any motivational strategies.

6. Conclusion and Pedagogical Implications

There are a set of envisaged applications of the findings of this research. The first application would be in the domain of teaching in national general schools. English instruction starts at the junior high school level. The textbooks incorporate reading comprehension practice, but they have the potential to get students more involved by addressing subjects that are more appealing and motivating. This motivating aspect may be increased through preparing reading materials addressing a wider range of intelligences.

There are also some implications regarding the Multiple Intelligences theory. Accepting Gardner's (1995) Theory of Multiple Intelligences has several implications for teachers in terms of classroom instruction. The theory states that all eight intelligences are needed to productively function in society. Educators, therefore, should think of all intelligences as equally important. This is in great contrast to traditional education systems, which typically place a greater emphasis on the development and use of verbal and mathematical intelligences. Thus, the Theory of Multiple Intelligences implies that educators should recognize and teach a broader range of talents and skills (Armstrong,

1994).

Since motivation plays a crucial role in learning, it could be highly practical in a classroom to know a map of one's students' intelligences and gear motivation to their needs. One student may gain a high level of motivation (of any kind) by seeing a short movie in the class. Yet, another might do so by role-playing a conversation before her peers (Matthew & Joshua, 2012). This agenda specially fits the general schools, where one teacher teaches a class the entire school year (nine months) or two semesters. This long time span makes it more feasible to make such a map available, which could go with a teacher's class list.

Multiple Intelligences-based educations reportedly have some merits. According to Gaines and Lehmann (2002), they improve learners' reading comprehension and enhance their academic performance. The implications for classroom practice are that teachers, books, and materials developers had better take this level of personal differences into account. Maybe the biggest implication of the Multiple Intelligences theory for learning is the fact that teachers should have at their disposal a wider range of techniques and tools. It has also some implications for teachers. One implication is that all eight intelligences are needed to productively function in society. Therefore, education planners should think of all intelligences as equally important.

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