



ONE TEXT, MANY MINDS: READING STRATEGY VARIATIONS AMONG LEARNERS WITH DIFFERENT INTELLIGENCE PROFILES

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ABSTRACT

Reading comprehension is one of the most essential skills for EFL learners, as it contributes to academic success and overall language proficiency. Effective readers employ a variety of Global, Supportive, and Problem solving strategies to construct meaning from texts. However, the effectiveness of strategy use may depend on learners' individual differences, including their cognitive styles and types of intelligence. Gardner's (1983) theory of multiple intelligences provides a useful framework for exploring these differences, suggesting that learners possess distinct intellectual strengths. This study investigates the relationship between Iranian EFL learners' multiple intelligences (MI) and their use of reading strategies. These relationships were examined through the administration of three instruments: Multiple Intelligences Developmental Assessment Scales (MIDAS), Survey of Reading Strategies (SORS), and IELTS and TOEFL reading comprehension tests on a group of EFL university students. The analysis of data obtained from correlational procedures indicated that there is meaningful relationship between the subjects' MI and their reading strategies. Among the eight intelligences defined by Gardner linguistic, interpersonal, intrapersonal, spatial, and logical-mathematical intelligences were found to have positive relationships with the subjects' reading strategies use. The findings suggest that teachers should structure the presentation of material in a style which engages most or all the intelligences. MI aids teachers in creating more personalized and diversified instructional experience.

Keywords: EFL learners, Multiple intelligences, Reading strategies, Global reading Strategies, Support Strategies, Problem Solving Strategies.

INTRODUCTION

Reading comprehension is a cornerstone of language learning and an essential skill for academic and professional success in English as a Foreign Language (EFL) contexts. It is not merely a process of decoding written words but a complex cognitive activity that involves constructing meaning, making inferences, and integrating prior knowledge with new information (Grabe & Stoller, 2019). For EFL learners, developing effective reading comprehension skills is often challenging, as it requires the simultaneous use of linguistic knowledge, cognitive strategies, and metacognitive awareness (Anderson, 2003). Therefore, identifying the factors that contribute to successful reading comprehension has been a continuing focus of applied linguistics research.

One significant area of inquiry has been the relationship between learners' reading strategy use and their individual differences, particularly in terms of their multiple intelligences. Gardner's (1983) theory of multiple intelligences (MI) challenged the traditional notion of a single, unitary intelligence by proposing that

human cognitive ability is multidimensional, encompassing linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalistic intelligences. He believes that all people regardless of their cultures possess core abilities in each of these intelligences and under the right circumstances and appropriate training they can develop each intelligence to a high level of functioning. Within this framework, each learner approaches learning tasks differently, depending on their dominant intelligences. Applied to EFL reading instruction, this perspective suggests that learners with different intelligence profiles may employ different strategies to comprehend and interpret texts. A brief explanation of the eight intelligences appears below.

Linguistic intelligence: the ability to use language effectively both orally and in writing.

Logical/mathematical intelligence: the ability to use numbers effectively and reason well.

Visual/spatial intelligence: the ability to recognize form, space, color, line, and shape and to graphically represent visual and spatial ideas.

Bodily/kinesthetic intelligence: the ability to use the body to express ideas and feelings and to solve problems.

Musical intelligence: the ability to recognize rhythm, pitch, and melody.

Naturalist intelligence: the ability to recognize and classify plants, minerals, and animals.

Interpersonal intelligence: the ability to understand another person's feelings, motivations, and intentions and to respond effectively.

Intrapersonal intelligence: the ability to know about and understand oneself and recognize one's similarities to and differences from others.

Because intelligence and education are closely linked, perspectives on intelligence have always influenced educational policies and the management of schools (Snow, 1982). Supporters of the traditional notion of intelligence tend to favor standardized schools that use identical teaching methods and assessments for all students, disregarding individual differences in learning styles. In contrast, Gardner's theory of multiple intelligences (MI) adopts a pluralistic understanding of the mind and recognizes that individuals possess diverse intellectual strengths. Advocates of MI, as noted by Smith (2001), promote educational programs that acknowledge these differences by providing various ways for learners to access new ideas and employing assessment methods that are authentic and learner-centered.

RESEARCH QUESTIONS

Since Gardner (1983) introduced the theory of multiple intelligences, many language educators have sought to explore its connection to foreign and second language teaching and learning. In line with this growing body of research, the present study aimed to investigate the relationship between multiple intelligences and the use of second language reading strategies, following Gardner's conceptual framework. More specifically, the study sought to address the following research question:

1. Is there any relationship between Iranian EFL learners' multiple intelligences and their use of reading strategies?

LITERATURE REVIEW

Researches on reading comprehension and reading strategy have shown that reading in first and second language is of a highly individual nature (Anderson, 1991). That is as Upton (1997) states no two readers do process the same text in exactly the same way. New theories of intelligence (Gardner, 1983; Sternberg, 1985), on the other hand claim that there are distinct abilities that differ across individuals. These have implications for teachers in general and reading teachers in particular regarding choosing reading materials, teaching techniques and ways of assessment. From the advent of MI proposed by Gardner, many studies have been done in educational settings to explore any relation between learning and learners' MI profiles. In the realm of EFL/ESL studies have been done to examine the possible connections between learners' MI profiles and language learning in general and language skills or sub skills in particular. However, the related literature encompasses intriguing results regarding the relationship of MI and language learning and skills or other related language issues. A number of studies conducted in the Iranian context showed a positive relation between MI and language learning and related issues (Akbari & Hosseini 2008; Hashemi, 2010; Ahmadian and Hosseini, 2012; Mahdavy, 2008). However, there are studies which found no relation between MI and English language learning (Razmjoo, 2008; Sadeghi and Farzizadeh, 2012; Bemani Naeini and Pandian, 2010).

Regarding language learning skills studies also revealed contradictory or varying results. Ahmadian and Hosseini (2012) conducted a research to investigate the possible relationship between EFL learners' multiple intelligence (MI) and their writing performance. The results of correlational analysis revealed a statistically significant relationship between the participants' MI and participants' performance in writing. They found that from among the eight intelligences only linguistic and interpersonal intelligences have more statistically significant relationships with the writing performance. Linguistic intelligence was found to be the best predictor of writing performance.

The significant role that Multiple Intelligences (MI) can play in modern educational programs that value learner diversity, along with the interesting findings of previous research, highlights the need for further investigation in this area to obtain more conclusive results.

METHODOLOGY

Participants

A total of 250 participants were invited to complete the two instruments used in this study. Only the responses of those who finished all sections of the instruments were included in the data analysis. The participants were undergraduate students from two universities in Tehran, studying English as a foreign language and enrolled in the final years of their academic programs.

Instruments

Two instruments, MIDAS and SORS were used to accomplish the purpose of this study. To measure the students' multiple intelligences the adult version of Multiple Intelligences Developmental Assessment Scales (MIDAS) was used. The Survey of Reading Strategies (SORS) was used to measure students' metacognitive awareness and perceived use of reading strategies.

Following Gardner's view of intelligence, this study used the **Multiple Intelligences Developmental Assessment Scales (MIDAS)** developed by Shearer (1996) to measure participants' multiple intelligences. The adult version was used, as the subjects were university students. MIDAS assesses eight intelligences: linguistic, logical-mathematical, spatial, musical, kinesthetic, naturalist, interpersonal, and intrapersonal through questions about everyday cognitive activities. The questionnaire was translated into Persian, reviewed by experts, and showed high reliability ($\alpha = .92$). To avoid confusion, intelligence category labels were removed before administration, and scores were obtained for each of the eight intelligences.

The second instrument used in this study was the **Survey of Reading Strategies (SORS)** developed by Mokhtari and Sheorey (2002). This 30-item questionnaire measures ESL students' metacognitive awareness and perceived use of reading strategies through a 5-point Likert scale (1 = "never" to 5 = "always"). It assesses three categories of strategies: **Global Reading Strategies (GLOB)**, planned techniques for monitoring reading (13 items), **Problem-Solving Strategies (PROB)**, actions used while reading, such as adjusting speed or rereading (8 items), and **Support Strategies (SUP)**, aids like using a dictionary or taking notes (9 items). The SORS demonstrated high reliability ($\alpha = .89$) in previous studies with ESL learners. For this research, the instrument was translated into Persian, reviewed by experts, and showed a reliability of .83. To minimize confusion, category labels (GLOB, PROB, SUP) were removed before administration.

Data Analysis

To answer the research question that is: "Is there any relationship between the Iranian EFL learners' MI and their use of different reading strategies?" first correlational analysis was conducted between MI subscales scores and the SORS overall score (Table 1). Then, the correlation was conducted between the scores of each SORS category (GLOB, SUP, PROB) and MI subscales scores (Table 2).

Table 1: The correlation coefficients between the scores of MI subscales and reading strategies scores.

		Correlations											
		MUS	KINES	LOGIC	SPAT	LINGIS	INTER	INTRA	NATUR	TO_RSS RS stand /150	Total RC OEFL stand/2	TO_IERCS Total RC ELTS stan/2	
MUS	Pearson Correl	1.000	.459*	.287*	.272*	.368*	.185*	.199*	.305*	.074	.099	.052	
	Sig. (2-tailed)		.000	.001	.001	.000	.029	.018	.000	.388	.244	.546	
	N	140	140	140	140	140	140	140	140	139	140	140	
KINES	Pearson Correl	.459*	1.000	.397*	.474*	.514*	.543*	.455*	.526*	.139	-.002	.080	
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.103	.982	.345	
	N	140	140	140	140	140	140	140	140	139	140	140	
LOGIC	Pearson Correl	.287*	.397*	1.000	.697*	.449*	.458*	.791*	.518*	.262*	.181*	.148	
	Sig. (2-tailed)	.001	.000		.000	.000	.000	.000	.000	.002	.033	.081	
	N	140	140	140	140	140	140	140	140	139	140	140	
SPAT	Pearson Correl	.272*	.474*	.697*	1.000	.539*	.531*	.714*	.565*	.283*	.176*	.076	
	Sig. (2-tailed)	.001	.000	.000		.000	.000	.000	.000	.001	.037	.373	
	N	140	140	140	140	140	140	140	140	139	140	140	
LINGIS	Pearson Correl	.368*	.514*	.449*	.539*	1.000	.710*	.639*	.440*	.375*	.095	.133	
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.263	.117	
	N	140	140	140	140	140	140	140	140	139	140	140	
INTER	Pearson Correl	.185*	.543*	.458*	.531*	.710*	1.000	.699*	.380*	.409*	.004	-.051	
	Sig. (2-tailed)	.029	.000	.000	.000	.000		.000	.000	.000	.966	.549	
	N	140	140	140	140	140	140	140	140	139	140	140	

INTRA	Pearson Correl	.199*	.455*	.791*	.714*	.639*	.699*	1.000	.464*	.394*	.106	.073
	Sig. (2-tailed)	.018	.000	.000	.000	.000	.000		.000	.000	.211	.391
	N	140	140	140	140	140	140	140	140	139	140	140
NATUR	Pearson Correl	.305*	.526*	.518*	.565*	.440*	.380*	.464*	1.000	.129	.029	.096
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.131	.735	.260
	N	140	140	140	140	140	140	140	140	139	140	140
TO_RSS Total RS sta Pearson Correl		.074	.139	.262*	.283*	.375*	.409*	.394*	.129	1.000	-.017	-.138
Sig. (2-tailed)		.388	.103	.002	.001	.000	.000	.000	.131		.845	.105
N		139	139	139	139	139	139	139	139	139	139	139
TO_TORCS Total RCPearson Correl		.099	-.002	.181*	.176*	.095	.004	.106	.029	-.017	1.000	.476*
TOEFL stand/20 Sig. (2-tailed)		.244	.982	.033	.037	.263	.966	.211	.735	.845		.000
N		140	140	140	140	140	140	140	140	139	140	140
TO_IERCS Total RC Pearson Correl		.052	.080	.148	.076	.133	-.051	.073	.096	-.138	.476*	1.000
stan/27 Sig. (2-tailed)		.546	.345	.081	.373	.117	.549	.391	.260	.105	.000	
N		140	140	140	140	140	140	140	140	139	140	140

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

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

As table 2 shows, there is a positive relationship between students' reading strategy and their logical-mathematical (0.262), spatial (0.283), linguistic (0.375), intrapersonal (0.394) and interpersonal intelligence (0.409), ranging from very low to moderate relationship.

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Table 2: The correlation coefficients between the scores of MI subscales and the reading strategies subscales scores.

Correlations

		RS_G LO BS Rea	RS_SUPS Reading strategy sup stan /45	RS_PROS Reading strategy pro	MUS	KINES	LOGIC	SPAT	LINGIS	INTER	INTRA	NATUR
RS_GLOBS Reading strategy glob stand /65	Pearson Sig. (2- tailed)	1.000 .000 140	.448* .000 140	.578* .000 139	.063 .457 140	.067 .431 140	.248* .003 140	.269* .001 140	.352* .000 140	.291* .000 140	.385* .000 140	.162 .056 140
RS_SUPS Reading strategy sup stan /45	Pearson Sig. (2- tailed)	.448* .000 140	1.000 .000 140	.334* .000 139	.086 .310 140	.184* .030 140	.146 .085 140	.191* .024 140	.305* .000 140	.442* .000 140	.277* .001 140	.025 .767 140
RS_PROS Reading strategy pro stand /40	Pearson Sig. (2- tailed)	.578* .000 139	.334* .000 139	1.000 .000 139	.019 .822 139	.103 .226 139	.195* .021 139	.178* .036 139	.174* .041 139	.242* .004 139	.226* .008 139	.058 .498 139
MUS	Pearson Sig. (2- tailed)	.063 .457 140	.086 .310 140	.019 .822 139	1.000 .000 140	.459* .000 140	.287* .001 140	.272* .001 140	.368* .000 140	.185* .029 140	.199* .018 140	.305* .000 140
KINES	Pearson Sig. (2- tailed)	.067 .431 140	.184* .030 140	.103 .226 139	.459* .000 140	1.000 .000 140	.397* .000 140	.474* .000 140	.514* .000 140	.543* .000 140	.455* .000 140	.526* .000 140
LOGIC	Pearson Sig. (2- tailed)	.248* .003 140	.146 .085 140	.195* .021 139	.287* .001 140	.397* .000 140	1.000 .000 140	.697* .000 140	.449* .000 140	.458* .000 140	.791* .000 140	.518* .000 140
SPAT	Pearson Sig. (2- tailed)	.269* .001 140	.191* .024 140	.178* .036 139	.272* .001 140	.474* .000 140	.697* .000 140	1.000 .000 140	.539* .000 140	.531* .000 140	.714* .000 140	.565* .000 140
LINGIS	Pearson Sig. (2- tailed)	.352* .000 140	.305* .000 140	.174* .041 139	.368* .000 140	.514* .000 140	.449* .000 140	.539* .000 140	1.000 .000 140	.710* .000 140	.639* .000 140	.440* .000 140
INTER	Pearson Sig. (2- tailed)	.291* .000 140	.442* .000 140	.242* .004 139	.185* .029 140	.543* .000 140	.458* .000 140	.531* .000 140	.710* .000 140	1.000 .000 140	.699* .000 140	.380* .000 140
INTRA	Pearson Sig. (2- tailed)	.385* .000 140	.277* .001 140	.226* .008 139	.199* .018 140	.455* .000 140	.791* .000 140	.714* .000 140	.639* .000 140	.699* .000 140	1.000 .000 140	.464* .000 140
NATUR	Pearson Sig. (2- tailed)	.162 .056 140	.025 .767 140	.058 .498 139	.305* .000 140	.526* .000 140	.518* .000 140	.565* .000 140	.440* .000 140	.380* .000 140	.464* .000 140	1.000 .000 140

As it shown in Table 2, there is a positive relationship between global reading strategies and Interpersonal intelligence (0.291), Linguistic intelligence (0.352), and Intrapersonal intelligence (0.385), ranging from low to moderate relationship. There is also a positive relationship between supportive reading strategies with Intrapersonal intelligence (0.277), Linguistic intelligence (0.305), and Interpersonal intelligence (0.442) ranging from low to moderate relationship. And finally there is a positive relationship between problem solving reading strategies and Logical Mathematical intelligence (0.195), Intrapersonal intelligence (0.226), and Interpersonal intelligence (0.242), ranging from very low to low relationship. These results indicate the existence of some meaningful relationship between five MI subscales and reading strategies use.

RESULT AND DISCUSSION

As seen above, among eight intelligences identified by Gardner (1983), five of them: logical-mathematical, spatial, linguistic, intrapersonal, and interpersonal are found to have a strong correlation with reading strategies use. Regarding the strength of correlations interpersonal, intrapersonal, and linguistic intelligence each has a moderate correlation with reading strategies use. Spatial and logical mathematical intelligence have a low correlation with reading strategies use.

The positive relationship between linguistic intelligence and reading strategies is justified by saying that “verbal intelligence involves the mastery of language” (Nolen, 2003, p. 115). Nolen (2003) also states that people with verbal intelligence have the ability to analyze and manipulate language and to pay special attention to grammar and vocabulary. Language enables them to memorize information better.

Language is one of the ways in which people respond to each other, thus interpersonal intelligence can play a key role in second language learning. Intrapersonal intelligence is highly involved in adult second language learning. Many of affective variables that are important factors in second language mastery, such as self-esteem, inhibition, and anxiety are aspects of intrapersonal intelligence (Smith, 2001). The positive relationship between interpersonal and intrapersonal intelligences with reading strategies found in this study also indicates the involvement of these two intelligences in reading strategies use.

The positive relationship between spatial intelligence and reading strategies is justified by saying that spatial intelligence gives a person the ability to manipulate and create mental images in order to solve problem (Nolen, 2003). Thus, we can say students with developed spatial intelligence may be better second language reading strategies user. Logical-mathematical intelligent people are able to detect patterns, reason deductively, and think logically. This justifies the positive correlation between logical-mathematical intelligence and reading strategies.

The correlation between MI subscales and reading strategies subscales showed that there is a positive relationship between logical/mathematical (0.248), spatial (0.269), interpersonal (0.291), linguistic (0.352), and intrapersonal intelligence (0.385) with global reading strategies ranging from low to moderate. This indicates that subjects developed in these intelligences tend to use global reading strategies more than the other two categories.

There is also a positive relationship between the support reading strategies with intrapersonal (0.277), linguistic (0.305), and interpersonal intelligence (0.442)

ranging from low to moderate correlation. It can be inferred that student with developed in these intelligences are better at using support reading strategies.

There is a very low correlation between problem solving reading strategies subscale and logical-mathematical (0.195) intrapersonal (0.226), interpersonal intelligence (0.242). Though the correlations are very low, it is significant and implying that students with developed in these intelligences are better at using problem solving strategies.

CONCLUSION

The present study was conducted to investigate whether there is any relationship between EFL learners' reading strategies and their multiple intelligences. The findings indicated that there is a significant relationship between participants' MI profile and their reading strategy use. From among eight intelligences identified by Gardner (1983), five of them: logical-mathematical, spatial, linguistic, intrapersonal, and interpersonal were found to have a strong correlation with reading strategies use. The results of this study are in line with those obtained by Akbari and Hosseini (2008) in which they found significant positive relationships between the participants' use of language learning strategies and their overall MI scores. The findings of the present study also confirm those achieved by Rahimi et al. (2012) in which they found there was a moderate positive relationship between the successful readers' use of reading strategy and linguistic, spatial, logical-mathematical, interpersonal and intrapersonal intelligences.

Apart from variations in degree of correlation between language learning skills and MI as a whole or individual intelligences, and apart from the variations in the relationship between language learning skills and different types of MI, the findings of this study are in line with all studies that have indicated the positive role that MI can have in language learning.

Individual differences is an underlying assumption behind the theory of MI and this implies that teachers cannot follow the same teaching method for all learners. Gardner (1993, P.208) reiterates that "We are not all the same, we do not all have the same kinds of mind, and education works most effectively for most individuals if ... human differences are taken seriously". Providing eight different ways of teaching is one of the most remarkable features of MI theory. Teachers can present their lessons in a wide variety of ways using music, cooperative learning, art activities, role play, multimedia, field trips, inner reflection, and so on (Armstrong, 2009). Application of this theory does not mean that teachers teach every concept through each of the intelligences, but rather it suggests that teachers analyze their lesson plans to examine which intelligences can be used with each activity. Lessons that incorporate the use of more than one type of intelligence are appropriate for more students than lessons that involve only one (Gardner, 1993). This study suggests that teachers be informed of their students' MI profile and employ a variety of teaching strategies which suit students' dominant intelligences.

Teachers can **leverage AI-powered tools** to design and deliver a **wide variety of learning materials** that cater to different types of intelligences, as proposed in **Gardner's Multiple Intelligences theory**. AI applications, such as adaptive learning platforms, text-to-speech programs, visual content generators, and interactive simulations, enable educators to present information through multiple modes (linguistic, visual, auditory, kinesthetic, etc.). For example, AI can generate

personalized reading passages for linguistic learners, data-driven exercises or logic puzzles for logical-mathematical learners, interactive mind maps and infographics for spatial learners, or musical pronunciation drills and rhythm-based vocabulary tasks for musical learners. By integrating these diverse AI-generated materials, teachers can address learners' individual strengths and preferences, increase engagement, and promote deeper and more meaningful language learning experiences. This alignment of AI's adaptability with the pluralistic nature of human intelligence ultimately supports more inclusive and effective instruction.

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