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How Reading Strategy Use And Personality Types Are Related?

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ABSTRACT

This study sought to uncover the reading strategies utilized by Iranian undergraduate English Foreign Language (EFL) learners and their relationship with personality types. To this end, 194 university EFL learners were asked to fill out the Myers-Briggs Type Indicator (MBTI) to identify their personality types and answer a reading strategy questionnaire to tap into metacognitive, cognitive, and support strategies. Results obtained indicate that the participants are moderate reading strategy users. Their most frequent strategies were the cognitive strategies, followed by the metacognitive and support strategies. An interview was also conducted and findings both confirmed the data accumulated through the questionnaire, and even revealed some additional strategies which had not been previously included in the questionnaire. Among the four bipolar personality types, introversion did show a significant positive relationship with reading strategies suggesting that the learners' extraversion and introversion dichotomy should be taken into consideration to shed light on their reading strategy use.

INTRODUCTION

Reading plays a critical role in language learning and mastery is considered to include many levels and components; it is an extremely difficult task to become a good reader. Carrell and Grabe (2002) view reading as the most important skill required of people in multicultural and international settings, academic learning, and self-study situations. In higher education today, reading is seen as the most important skill to master for university students to gain knowledge of their own discipline. To this end, a great deal of research has explored and supported the notion that strategic approaches are an indispensable part of the reading comprehension process (Blachowicz & Ogle, 2008) and the effective use of reading strategies

has been recognized as a significant means to increase reading comprehension (Huang, Chern, & Lin, 2009). Strategic approaches during reading refer to the way readers visualize the text in their mind, the textual cues they attend to, how they make sense of the text content, and how they compensate when understanding is incomplete (Block, 1986). Learner autonomy is intimately related to learning strategies (Wenden, 1991; White, 1995; Vanijdee, 2003). Moving away from a passive, instruction-dependent learner to a more active, creative, and autonomous one is seen as an important goal of strategy learning. Language learners are expected to continue their progress in learning the second language after the end of their educational career, and learning strategies can significantly contribute to this objective. Language learning strategies are related to many factors such as attitude and belief, cultural background, age, gender, learning style, and personality trait (Oxford, 1994).

The learners' psychological type, which includes learning styles, affective variables, and personality factors (Ehrman, Leaver, & Oxford, 2003), is important to underscore here. It is, therefore, reasonable to study learning strategies in the context of psychological variables (Schmeck, 1988) for, as Brown (2007) believes, learners' use of different language learning strategies is not enacted by itself; rather, strategies are related to learners' personality and learning styles.

Studies conducted on language learning strategies in Iranian context have mostly focused on the four skills, learning strategies in general, rather than a specific skill (e.g., Nikoopour & Farsani, 2010). In this EFL context where reading is the main tool of learning English for university students, there is a lack of research into the use of reading strategies and the psychological factors related to these strategies. Therefore, one of the purposes of the present study is to determine the type and frequency of reading strategy preferences for university students at the undergraduate level. The study further tries to uncover the relationship between reading-strategy preferences of the participants and their personality types. The following research questions guide this study:

1. What are the personality types of Iranian EFL learners based on the data accumulated through MBTI questionnaires?
2. Which categories of reading strategies do Iranian EFL learners use most frequently?
3. What is the relationship between personality types and reading strategy preferences of Iranian EFL learners?

Reading Strategy

Comprehension processes that readers employ in order to make sense of what they read are defined as reading strategies (Brantmeier, 2002). Examples of reading strategies are: making connections (connecting reading content to past experiences or prior knowledge); visualization (creating pictures in mind); asking questions (asking questions before, during, and after reading to better understand the author and the meaning of the text); inferencing (drawing conclusions based on background knowledge); determining importance (looking for things that help readers identify big ideas and why they are important); and synthesizing (combining new information from the text with existing knowledge in order to form new ideas or interpretations).

The reading strategies assessed in this study are based on Mokhtari and Reichard's (2002) classification labeled as cognitive, metacognitive, and support strategies. Cognitive strategies are direct strategies used to orchestrate the mental processing of a target language. They are classified as local (data-driven), global (reader-driven), or interactive in nature

(Blachowicz & Ogle, 2008). Metacognitive strategies function to monitor or regulate cognitive strategies (Flavell, 1981; Devine, 1993) by pre-planning reading, monitoring one's attempts, revising, etc. Skimming a text for key information by readers is a cognitive strategy, whereas assessing the effectiveness of their skimming strategy for gathering textual information is a metacognitive strategy (Devine, 1993). Support strategies are basic support mechanisms (using dictionaries, taking notes, and underlining) that are employed to aid readers in having better reading comprehension (Mokhtari & Sheorey, 2002). During reading and constructing meaning from the context, the three classes of strategies interact with and support each other, resulting in a more effective reading comprehension. More skilled L2 readers seem to use strategies more frequently and in a more varied and orchestrated manner than less skilled readers. Saricoban, (2002) reported that successful readers prefer global or top down strategies, predicting, guessing, and accessing to background knowledge that are cognitive, metacognitive, and compensatory in nature while poor readers utilize bottom up strategies, including processing text in a word for word fashion, focusing on grammatical structure, and sound-letter correspondences, word meaning, and text detail.

Personality Types

In every field of study related to human characteristics, personality plays an important role in preference for one modality over another. According to Ehrman and Dörnyei (1998), the ways people act and react vary for two main reasons: the first is that past experience of human beings condition them how to act in various situations; the second reason is that psychological and behavioral patterns influence their individual world view, their interactions, and the ways in which they establish their identities. In education, personality has always been an important area of research for pedagogists and educational psychologists alike. A great deal of attention has been devoted to the relationship between learners' personality and learning processes (Boekaerts, Pintrich, & Zeidner, 2000). Concerning second language contexts, individual differences, particularly personality, is a determining factor in learners' motivation, perseverance, and achievement, to mention but a few (Busato, Prins, Elshout, & Hamaker, 2000; Komarraju & Karau, 2005). During the last two decades, the main focus of language and learning theorists was on developing teaching methods suited to all learners in all contexts; however, in the modern world of language teaching, what helps teachers and language learners meet the objectives of language learning programs is matching individual features with activities and strategies applied within the classroom and trying to learn more about learners' various features.

Psychologists have always been concerned about the most reliable tool assessing personality types of individuals. Jung (1971) in his personality theory asserted that people's behavior is not a random phenomenon; rather, it can be measured and classified. He initially differentiated between people of two types (introversion and extroversion) based upon a person's general attitude. The functional types of thinking and feeling, as well as sensing and intuition, were added later on.

In 1942, Isabel and her mother, Katherine, developed the MBTI questionnaire based on Jung's psychological type theory. Today, their questionnaire serves as one of the most widely used personality inventories in the world. What follows is a brief elaboration on the four scales of the MBTI:

1. *Extraversion/Introversion*: Extraversion is the tendency to socialize with other people, to be outgoing and to receive affirmation and self-esteem from others. Extraverted

individuals obtain information by being more oriented toward the outer world of people, events, or things. Conversely, introversion is the tendency to stay away from other people and avoid getting very involved in social activities. Introverts process their thoughts internally before speaking; they have very few close friends and often seek conversations that are deeper in nature (MacIntyre, Babin, & Clément, 1999).

2. *Sensing/Intuition*: Sensing individuals usually have full consciousness of their senses in relation to their surrounding situations. Acting based on facts, they often focus on practical concrete problems and use their five senses in a sequential fact-oriented manner. Intuitives look forward to what happens in the future and live in a world of conjecture, percepts, patterns, and possibilities. They see the big picture, sometimes at the expense of details, and tend to concentrate on complicated problems (Hirsh & Kummerow, 1997).
3. *Thinking/Feeling*: Thinking individuals make logical, objective, and impersonal decisions and adopt a cause-effect approach in most situations. They prefer to be just, determined, and competent. Feeling type individuals treat things subjectively and base their decisions on interpersonal factors. They act well and easily to peoples' values and are adept at assessing the human impact of decisions (Rushton, Morgan, & Jackson, 2007).
4. *Judging/Perceiving*: Judging people always structure the situations and take an organized approach toward life. They are usually self-disciplined, have a well-developed value system, which they strictly adhere to, and prefer to have order in their lives. Perceiving people are flexible, open individuals toward new ideas and situations. They like to act based on spontaneity, prefer to leave things open, do not make decision instantly, and get things done at the last minute (Sprague, 1997).

Empirical Studies on Personality and Learning Strategies

Quite a number of studies have been conducted on the relationship between personality type and the use of language learning strategies. Ehrman and Oxford (1989) carried out a study among a sample of thirty students, twenty-six language instructors, and twenty-two professional language trainers. The results revealed that extroverts prefer to use affective and visualization strategies more frequently than introverts who make a greater use of strategies for searching /communicating meaning. Intuitive people used affective, formal model building, authentic language use, and searching for meaning more than sensing type people. Feeling type people were found to use general study strategies more frequently than thinking type people.

Ehrman and Oxford (1990) examined this relationship among Turkish learners in the U.S and reported that extrovert individuals employed social strategies and functional practice strategies while introverts reject such strategies and tend to use metacognitive strategies. Additionally, sensing students showed strong preference toward memory strategies, but intuitives extensively employed compensation strategies. Thinking type people reported heavy use of cognitive strategies, however, and no dominant strategy was reported by feeling type individuals. Judges preferred to use metacognitive strategies, whereas perceivers used cognitive and compensation strategies more than other strategies. Conti and Kolody (1999), using two instruments of Assessing the Learning Strategies of Adults (ATLAS) to measure the learning strategy preferences and MBTI, did not find any significant relationship. Studying the relationship between personality type and language learning strategies among Iranian EFL

learners, Nikoopour and Farsani (2010) found that sensing and intuitive individuals prefer to use affective strategies while thinking and feeling students employ memory and social strategies. They also reported that perceiving learners use two categories of strategies, cognitive and compensation, whereas judging individuals employ only a compensation strategy. However, they did not find any significant relationship between the extrovert/introvert dichotomy and language learning strategies.

METHOD

Participants

The participants of the study were selected from 6 intact classes in 3 universities across Tehran, Iran. A total of 194 English-major undergraduate students (77% female, 23% male), with an age range of 19-35 filled out the questionnaire and 16 volunteers were randomly selected to attend the interview sessions. Students pursuing English Literature and English Translation majors were selected because they are the most popular undergraduate degrees offered by Iranian universities. Regarding the selection and assignment procedures, the researchers randomly selected the EFL reading classes from among different classes available. The instructors in these three universities agreed to cooperate and secure students' consent prior to their participation in this study.

Instrumentation

Myers-Briggs Type Indicator (MBTI)

The MBTI used in this study purports to identify personality types through a 60-item, self-administered, paper-and-pencil questionnaire. Validity of MBTI scores has been established by finding statistically significant correlations between MBTI scores, behaviors reflective of MBTI constructs, and persons' self-assessment of their own MBTI type (Myers & McCaulley, 1989). The questionnaire consists of four bipolar personality dimensions including Extraversion/Introversion, Intuition/Sensing, Thinking/Feeling, and Judging/Perceiving. The Cronbach's alpha calculated for the present study questionnaire is 0.74.

Reading Strategy Inventory

A 38-item questionnaire based on a 5-point Likert scale developed by Mokhtari and Reichard (2002) was selected to assess participants' preferences for reading strategies. Each item in the questionnaire was quantified with a score in which "always" was associated with the value of 5, "often" with 4, "sometimes" with 3, "rarely" with 2, and "never" with 1. In this way, each participant received a separate score for metacognitive, cognitive, and support strategies. The score interpretation was adapted from Mokhtari and Reichard, which, in turn, is based on Oxford's (1990) suggestion for language strategy usage. In that, three levels of strategy use are suggested, that is, high (mean of 3.5 or higher), moderate (mean of 2.5-3.4), and low (2.4 or lower). The mean for each category indicates which strategy learners used most or least while reading. The questionnaire was translated and validated by Saadinam (2005) who obtained reliability coefficient of 0.77, a high value. We also calculated Cronbach's alpha for the present study questionnaire and obtained reliability of 0.88.

Procedures

The questionnaires were pilot tested by being administered to 20 subjects whose characteristics were judged to be the same as those of the target group. Sampling procedure was a purposive sampling design in which the participants were selected from their naturally formed classes, and were given time during the last or first 20 minutes of their reading classes to answer the questionnaires. Subjects provided their demographic information like age, sex, and major before filling out the MBTI. Then, explanations about Reading Strategy Inventory were provided to turn subjects' attentions to the reading process and their likely strategies. According to Baker and Boonkit (2004), since questionnaires collect data away from the real learning context, responses are limited to the questionnaire designer preferences and no elaboration or explanation on choices can be elicited. Therefore, as assessing and analyzing reading strategies accumulated merely through questionnaires is not that valid, we also conducted some interviews along with the questionnaire. 16 student volunteers were randomly selected to participate in the 8-12 minute interview sessions.

The interview was conducted in a semi-structured format, so that the participants were not restricted within the confines of interview questions and could openly discuss their strategies. Before starting the interview, each student was given a reading comprehension text taken out from IELTS examination papers from university of Cambridge English for Speakers of Other Languages (ESOL) examinations. After reading the text, participants were asked some questions about the reading strategies they had used. The recorded voices of participants were transcribed and analyzed immediately following the sessions. Each transcription was coded for ease of analysis and tracking of the points raised, then the most frequent patterns of the responses which supported the questionnaire data, as well as some other strategies pointed out by participants but not covered in the questionnaire were analyzed and translated into English. In qualitative methods of data analysis, subjectivity is an inherent factor; therefore, other interpretations of the data by readers may be equally valid (Halliday, 2002).

RESULTS

Questionnaire Data

What are the personality types of the participants based on MBTI data?

Each of four bipolar scales is assessed by 15 items of the questionnaire, and their results are presented in Table 1. It can be found that concerning introversion/extroversion scale, most of the students in the sample group are extroverts with the mean of 9.14 out of the total 15. Regarding other dichotomies, though there are no sharp differences between the two dimensions of each scale, most participants were found to be intuitive (8.3 to 6.6), feeling (8.2 to 6.7), and judging (6.6).

Table 1. Descriptive Statistics of Personality Types

Personality Type	Mean	Std. Deviation
Introvert	5.8505	3.48993
Extravert	9.1495	3.48993
Sensing	6.6959	3.20545
Intuitive	8.3041	3.20545
Thinking	6.7423	3.47091
Feeling	8.2577	3.47091
Perceiving	8.3918	3.84022
Judging	6.6082	3.84022

What are the reading strategies used by the participants based on Reading Strategy Inventory data?

To investigate the frequency of each category of reading strategies, descriptive statistics were employed. Three levels of strategy use are suggested herein based on calculating the means, high (3.5 or higher), moderate (2.5 to 3.4), and low (2.4 or lower). The average for each subscale in the questionnaire shows the group of strategies learners use most or least while reading. The overall mean for the three categories of strategies is 3.37, indicating that participants are moderate strategy users. Cognitive strategies with the mean of 3.53 are mostly preferred by subjects, and are followed by metacognitive strategies (M=3.37) and support strategies (M=3.21).

Table 2. Descriptive Statistics of Reading Strategies

Strategy	Mean	Std. Deviation
Metacognitive	3.3751	.56827
Cognitive	3.5346	.54177
Support	3.2184	.72355

Interview Analysis

Strategies reported in interview sessions were analyzed according to Mokhtari and Reichard's (2002) classification of reading strategies that were reviewed before. Table 3 shows the reading strategies that were also covered by the Reading Strategy Inventory along with the percentage of the learners who reported to employ them. Paying attention to the title, subtitle, and illustrations is the most popular metacognitive reading strategy (100%), skimming/scanning is the most frequent cognitive strategy (87%), and looking up unknown vocabularies is the most widely-used support strategy (75%) based on the analysis of interviews (Table 3).

From Table 4, it becomes clear that 4 metacognitive strategies, 2 cognitive strategies, and 2 support strategies were not covered by the questionnaire. Regarding the frequency of strategies used, interview findings are in line with questionnaire in that students most frequently apply cognitive strategies (47%), metacognitive strategies (41%), and support strategies (31%) respectively.

Table 3. Strategies Covered by the Questionnaire

Metacognitive Strategies		
1	Thinking about the purpose of reading	81%
2	Paying attention to the title, subtitle, and illustrations	100%
3	Having a cursory look at the whole text	87.5%
4	Guessing and predicting about the general topic of the text	56%
5	Evaluating one's understanding during reading	81%
6	Searching for clues, italic and/or bold words, numbers	6%
7	Evaluating and revising hypotheses made during reading	6%
Cognitive Strategies		
1	Trying to be more concentrated	31%
2	Searching for the main ideas of each paragraph	56%
3	Thinking about what one already knows about the topic	37.5%
4	Trying to ignore some details to just serve the purpose of reading	5%
5	Guessing the meaning of unknown vocabularies	37%
6	Focusing on key words	43%
7	Rereading	75%
8	Ignoring certain parts and waiting to see if more information is provided later	50%
9	Reading slowly	18%
10	Creating mental images	50%
11	Skimming/scanning	87%
12	Using discourse markers and their co-texts to identify relationships	18%
13	Analyzing the structure of the sentence and/or the parts of the key words	31%
Support Strategies		
1	Seeking help from others	12%
2	Looking up unknown vocabularies	75%

Table 4. Strategies Not Covered by the Questionnaire

Metacognitive Strategies		
2	Trying to be more strategic	31%
3	Managing the time	6%
4	Planning what to do after reading	31%
5	Identifying difficulties in understanding	31%
Cognitive Strategies		
2	Translating a word/phrase into L1	31%
3	Using co-text to guess meaning of vocabularies	37%
Support Strategies		
1	Stopping reading and resuming later on (when there is no time limit) to refresh one's mind	31%
2	Using different sources to gain some knowledge about the topic of the text	31%

During the semi-structured format interviews, interviewees mentioned some strategies that can be helpful to have a better reading comprehension endeavor. Some interviewees referred to searching subjects related to the text topic on the Internet to obtain a holistic idea of the text before reading as one of their preferable strategies. Google Web, Google Translation, and Wikipedia are the most helpful sources that can assist them during reading provided there are no time limitations. When encountering difficulties, a few students made use of translation, some others reported their inability in evaluating their progress because they lost concentration on the

whole idea of the text and focused their attention on unraveling the challenging part. Critical reading was pointed out by one student who reported that he used his background information selectively and sometimes he judges the writer's opinion and may even reject his own previous beliefs about a topic. While 50% of the students created mental images during reading, half of them stated that it is very difficult to apply this strategy when the text is unfamiliar or vague. When asked for the best way of improving reading comprehension skills, several students referred to extensive reading as the most effective way. Some even indicated extensive listening to be equally helpful.

What is the relationship between personality types and reading strategy preferences?

In order to determine the relationship between personality types and reading strategies and also the prediction ability of personality in learners' use of strategies, a regression analysis was carried out. Regression analysis is used to produce an equation that will predict a dependent variable using one or more independent variables. One of the important assumptions of this type of statistical analysis is that a correlation be established between independent variables and the dependent variable. In this study, reading strategies are our dependent variable and personality types are the independent variables. Considering these two as our variables, a correlation analysis was conducted and the results are shown in Table 5.

Table 5. Correlation Analysis

		Metacognitive	Cognitive	Support
Introvert	Pearson Correlation	.171*	.245*	.237*
	Sig. (2-tailed)	.017	.001	.001
Extravert	Pearson Correlation	-.171*	-.245*	-.237*
	Sig. (2-tailed)	.017	.001	.001
Sensing	Pearson Correlation	.057	.074	.063
	Sig. (2-tailed)	.426	.308	.382
Intuitive	Pearson Correlation	-.057	-.074	-.063
	Sig. (2-tailed)	.426	.308	.382
Thinking	Pearson Correlation	-.046	-.033	.100
	Sig. (2-tailed)	.525	.643	.164
Feeling	Pearson Correlation	.046	.033	-.100
	Sig. (2-tailed)	.525	.643	.164
Perceiving	Pearson Correlation	.072	.048	.118
	Sig. (2-tailed)	.321	.509	.102
Judging	Pearson Correlation	-.072	-.048	-.118
	Sig. (2-tailed)	.321	.509	.102

Note. * shows correlation is significant at the 0.05 level (2-tailed).

The results show that just *introvert* is correlated with the three categories of reading strategies, metacognitive (.171), cognitive (.245), and support (.237); consequently, *extrovert* is

negatively correlated with the three reading strategies. This significant relationship is put into regression analysis where metacognitive, cognitive, and support strategies are dependent variables and personality types are independent variables. In simple or multiple linear regression, the size of the coefficient for each independent variable reveals the size of the effect that variable is having on the dependent variable, and the sign on the coefficient (positive or negative) offers the direction of the effect. In regression with a single independent variable, the coefficient indicates the degree to which the dependent variable is expected to increase (if the coefficient is positive) or decrease (if the coefficient is negative) when that independent variable increases by one. In regression, with multiple independent variables, the coefficient indicates how much the dependent variable is expected to increase when that independent variable increases by one, holding all the other independent variables constant (Hoffmann, 2010, p. 48). The coefficient tables of the three reading strategies are provided here to establish the prediction of the dependent variable by the independent variable.

Table 6. Coefficient of Metacognitive Strategy

	B	Std. Error	Beta		
Extravert	-.409	.155	-.193	-2.630	.009
Intuitive	-.298	.200	-.129	-1.493	.137
Feeling	.274	.174	.129	1.577	.116
Judging	-.252	.148	-.131	-1.695	.092

Note. Dependent variable: Metacognitive. Independent variables: Extravert, intuitive, feeling, and judging.

Table 6 shows the significant relationship between metacognitive strategies and personality types. This relationship is negative and based on the beta value, one standard deviation increase in extravert individuals results in .193 standard deviation decrease in the use of reading strategies. For cognitive strategies, the beta value reveals that one standard deviation increase in extravert type results in .267 standard deviation decrease in reading strategy preference of the learners (Table 7).

Table 7. Coefficients of Cognitive Strategy

	B	Std. Error	Beta		
Extravert	-.703	.191	-.267	-3.689	.000
Intuitive	-.364	.245	-.127	-1.485	.139
Feeling	.355	.213	.134	1.667	.097
Judging	-.280	.182	-.117	-1.534	.127

Note. Dependent variable: Metacognitive. Independent variables: Extravert, intuitive, feeling, and judging.

Regarding support strategies, Table 8 shows that they are just related to extraversion and that one standard deviation increase in extroversion personality type result in .243 decrease in support strategies.

Table 8. Coefficients of Support Strategy

	B	Std. Error	Beta		
Extravert	-.403	.120	-.243	-3.372	.001
Intuitive	-.111	.154	-.061	-.721	.472
Feeling	-.083	.134	-.050	-.621	.535
Judging	-.286	.114	-.190	-2.503	.013

Note. Dependent variable: Metacognitive. Independent variables: Extravert, intuitive, feeling, and judging.

It should be pointed out that since extravert/introvert are two extremes of a dichotomy, the negative relationship of extravert with the three strategies is interpreted as the positive relationship of introvert personality type with them. While an increase in beta value means a decrease in reading strategy for extroverts, it means an increase in reading strategy for introverts.

DISCUSSION AND CONCLUSION

This study was an attempt to investigate the reading strategies employed by Iranian EFL learners at university level and their probable relationship with personality traits. Reading strategies were assessed using both a questionnaire (Reading Strategy Inventory) and semi-structured interviews; personality types were determined by using MBTI. Among the four scales of personality types, just the introversion/extroversion dichotomy makes a noticeable distinction among the participants, showing that most of the students are extroverts.

Carrell, Prince, and Astika (1996) assert that personality preferences, as set out in the MBTI, give no indication of student maturity, motivation, or of situational factors. This indicates that great care must be taken when interpreting MBTI results, and that we cannot strongly claim that a majority of language learners in the studied context are extroverted individuals. Concerning reading strategies, descriptive statistics showed that cognitive strategies are the most frequent strategy used by the participants while support strategies are the least employed strategies. This result corresponds with Mokhtari and Reichard's (2002) findings in which cognitive strategies are the most reported and support strategies are the least reported strategy by participants. In the Iranian context, these results are in-line with the study conducted by Tabataba'ian and Zabihi (2011), reporting on the frequent use of cognitive strategies in reading both English texts for specific purposes and general purposes among four Iranian language learners. However, as far as all four skills are concerned, Nikoopour and Farsani (2010) showed that Iranian EFL learners mostly prefer metacognitive learning strategies. This suggests that findings related to learning strategies cannot be attributed to strategies related to specific skills, and this necessitates examining strategies of specific skills in Iranian context.

Interview findings about the reading strategy preferences showed that most of the strategies reported by interview subjects were also assessed by the questionnaire. It can be stated that the questionnaire used for reading strategies has an acceptable degree of validity to assess a majority of strategies that readers may use. The two instruments both showed cognitive strategies as the most preferred strategy among the participants.

This study found a significant relationship between extroversion/introversion and reading comprehension strategies while the other personality traits were not correlated with any of the

strategy categories. Introvert trait is positively correlated with strategy use suggesting that introverts are more strategic readers while extroverts do not tend to use reading strategies. Goh and Moore (1987) and Sanchez-Marin, Rejano-Infant, and Rodriguez-Troyano (2001) view introverts more advantageous in learning and more likely to have better study habits. Ehrman and Oxford (1990) point to evidence that introverts use more metacognitive and cognitive strategies than extroverts who prefer social language learning strategies. This is due to the nature of reading skills that have traditionally been assumed to be “an individual responsibility – a task conducted outside of class” (Swaffar, Arens, & Byrnes (1991). As Ehrman and Oxford (1990) mentioned, introverts are more successful in solitary activities, and they prefer reading and writing since they are more easily done alone than speaking and listening. We can say that introverts are able to make better use of their reading activity by applying more strategies and other activities that may be helpful for their reading comprehension.

Working on reading comprehension in language classrooms, it is recommended teachers attend to learners’ differences in terms of their personalities by assigning tasks, needing to be done at home or in a safe environment. This is especially relevant to groups of students judged to be introverts, in order to suit their personality traits.

Similar to the present study, other studies also failed to find any relationship between reading strategies and the other scales of MBTI (sensing/intuitive, feeling/thinking, perceiving/judging). Carrell, Prince, and Astika, (1996), Ehrman and Oxford, (1995), and Carrell and Anderson (1994), for example, failed to find any direct, simple relationship in their research in similar cases. Therefore, we can not strongly claim that the use of language learning strategies in general and reading strategies in particular is affected by all types of learners’ personalities, and further studies in different contexts are needed to reach such a conclusion.

Strategy-based Instruction asserts that language learning strategies are teachable and the goal is to improve reading comprehension by preparing strategic readers (McDonough, 1999; Cohen, 1998). Implementing such programs call for the need to consider learners’ personality as a probable contributing factor in their use of strategies. Some learners may feel more confident in the use of specific reading strategies, while others may tend to use a type of strategy that is not effective but, due to their general tendency, they keep applying it. Conversely, students may not feel very confident in learning another language due to some preconceived notions about their inability in language learning and this, in turn, may influence their use of strategies.

Strategy-based instruction programs are not expected to be effective when learners’ characteristics are marginalized or completely ignored. Pedagogically speaking, when teachers know about learners’ individual differences, they can effectively orient their strategy teaching toward the personality types of the learners and systematically provide the needed instructional varieties. Language instructors are expected to consider learners extrovert/introvert personality type an important factor when teaching reading or demanding students to use different strategies. They are not to assume that one strategy fits all students or that the use of a particular strategy will make them strategic readers. Not only may learners’ strategic reading be affected by personality traits, but also many other factors may be influential in their use of reading strategies such as motivation, gender, cultural background, attitude and belief, type of task, age, L2 stage, learning style, and tolerance of ambiguity (Oxford, 1994). Examining the relationship between these factors and reading strategies in different contexts may solve most of the unresolved issues related to the learners’ application of reading strategies and open the doors to a more promising strategic L2 reading comprehension.

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