

Cloze-Elide Test as an Alternative Test Method: Linking Personality Types to Test Method Performance

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Abstract: More innovative test methods may measure language learners' test performance more accurately, contributing to much fairer decisions. This study examined Iranian language learners' performance on cloze-elide test as an innovative, integrative test method. It specifically focused on investigating whether personality types correlated with their performance and whether personality types could predict their test performance. Data were collected from 283 Iranian language learners at six Iranian language institutes, who took the cloze-elide test, the Michigan Test of English Language Proficiency (MTELP), and the Myers-Briggs Type Indicator (MBTI-M) Personality Type Inventory. The data were quantitatively analysed using SPSS (version 22). The results of Pearson correlation showed a positive correlation between thinking and performance on cloze-elide test; by contrast, extroversion and feeling negatively correlated with language learners' performance on cloze-elide test. Furthermore, the results from the standard multiple regression showed that the strongest personality type for predicting language learners' performance on the test was introversion. The findings suggest the interaction between personality types and test methods may better explain test results. The article concludes with some implications for curriculum development.

Keywords: Test Performance, Cloze-Elide Test, Personality Types, Introversion, Thinking.

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Introduction

Over the years, researchers have proposed numerous test methods to measure language learners' reading comprehension (RC), which Shanahan (2005) succinctly defined as "the process of understanding and interpreting information from the text" (p. 175). RC is a very complex skill, which requires the integration of many factors to process and understand a text. For some researchers such as Pang (2008), RC draws on the familiarity with text structure and topic, awareness of reading strategies to process the text, and word recognition. For other researchers, lower-level and higher-level processes (Ajideh & Sattarpour, 2014; Grabe & Stoller, 2002), micro skills and macro skills (Brown & Abeywickrama, 2010), and task types (Grabe, 2009) may exert an influence on RC.

Given the complexity and significance of RC, some measures have been proposed to best test it, which can be neatly divided into two major categories: traditional test methods and more recent approaches (Brown & Abeywickrama, 2010). Traditional test methods measure the reading abilities of language learners one at a time and primarily focus on lower-order reading skills such as locating dates, identifying people, and establishing grammatical relations (Alderson, 2000). Such methods provide a general indicator of the level of language learners' understanding of the text and do not necessarily reveal how language learners can use cognitive and metacognitive processes to comprehend a text (Fulcher, 2010). By contrast, more recent test methods tend to be holistic and integrative, requiring test takers use a wide array of resources to decode the text message and identify the linguistic relationships between the sentences (Bachman & Damböck, (2018).

Cloze procedures (CPs) have been proposed as integrative alternatives to traditional one-off, multiple choice test methods to assess RC (Eckes & Grotjahan, 2006). One variant of cloze procedure is "cloze-elide" test which was first proposed by Davies in the 1960s (as cited in Alderson, 2000, p. 225) and was revisited by Manning (1987) "to diversify testing format" (p. 3). In this test technique, "superfluous, incorrect words are inserted into a text and must be identified by the test taker within a limited time" (Baker, 2011, p. 1). However, in spite of its high correlation with well-known standard tests such as paper-based test of English as a foreign language (TOEFL) (Manning, 1987) and its high reliability and validity (Baker, 2011; Klein-Braley, 1997; Manning, 1987), the cloze-elide test has received very little attention.

Research has shown (e.g., Bachman, 1990; Piechurska-Kuciel, 2018) cognitive styles

of language learners, including field dependence, may systematically affect test results, “resulting in bias against certain test takers” (p. 114). To date, however, no study has undertaken to show the relationship between personality types and language learners’ performance on cloze-elide test. In the present study, we examined the extent to which these types may correlate with performance on this test and the degree to which they can predict test performance.

Literature Review

Personality Types

According to Ashton (2013) and Harris (2014), people can be categorised into one of the following types: Extroversion/introversion, sensing/intuition, judging/perceiving, and thinking/feeling. Concurring with these dichotomies, Ewen (2003) asserted that these types may change over time. Maltby, Day and Macaskill (2010) also pointed out that a person’s personality type could explain every incident in his/her psyche. However, DiTiberio (1996) noted that each personality type has its own strengths and weaknesses in education and learning.

Over the last two decades, the importance of personality types in the learning process has been demonstrated in several studies. Robinson, Gabriel, and Katchan (1994), for example, concluded that students’ performance in oral and written language assessments might differ in accordance with their personality traits. Noftle and Robins (2007) showed that personality traits could exert a positive effect on academic performance. Further, in their study on 247 students of two British universities, Chamorro-Premuzic and Furnham (2003) concluded that personality traits seem to correlate with students’ scores in examinations as well as their academic achievement.

Psychological type theory was initially proposed by Carl Jung, a Swiss psychiatrist, in the early years of the twentieth century (Briggs-Myers, McCaulley, Quenk, & Hammer, 2003; Kim & Han, 2014). Briggs-Myers, et al. described the essence of “type” theory as the random variation in behavior due to the fact that individuals appear to have different preferences in applying their perception and judgment. One of the most known models based on Jung theory is the “Myers-Briggs Personality Type Indicator” (MBTI) for identifying personality types (Ackerman, 1999; Furnham, 1996; Myers & Myers, 1980; Quenk, 2009). Personality types are subsumed under the Curry’s (1983) third and innermost layer of the hypothetical learning style onion: “cognitive personality style”. The main focus of MBTI is

on describing the personality complex system consisting of four major dichotomous traits (Cohen, Ornoy, & Keren, 2013). Therefore, MBTI is useful for assessing learners' characteristics, learning styles, the interaction between teachers and learners, and the learners' academic achievement at all levels of educational settings (DiTiberio, 1996).

Using this MBTI, respondents are supposed to answer a short questionnaire in order to classify their traits based on four dichotomous types (Quenk, 2009). "The MBTI instrument", as Haughton (2001) summarised, "is a self-report instrument, is non-judgmental, indicates preferences, sorts instead of measures, is well-researched, [and] deals with everyday behavior of normal people" (p. 4). The bipolar scales of MBTI are combined to yield 16 different personality types which distinguish people based on their attitudes and behaviors (Carrell, 1995). Thus, anyone can be categorised into one of these 16 categories which are helpful for matching the respondent to a task or a career (Cohen, Ornoy, & Keren, 2013).

There are studies reporting the efficacy of MBTI for demonstrating personality traits. In this regard, Boyle and Barton (2008) referred to the popularity of MBTI as a widely used technique for determining personality types. Callahan (2000) believed that one of the advantages of MBTI is that type is not "reductive", but it reminds one of "the increased respects for the complexity of human nature" (p. 61).

The MBTI inventory exists in several different forms. In this study, MBTI-M is employed to assess the participants' personality types. The MBTI-M is a 93-item, forced-choice, self-report questionnaire (Coffield, Moseley, Hall, & Ecclestone, 2004). High reliability coefficients ranging from .86 to .92 have been reported for this inventory (Schaubhut, Herk, & Thompson, 2009). MBTI-M has also been translated into different languages such as Persian (Hosseini, 2003), who reported a split-half reliability of 0.87 and test-retest reliability of 0.70 to 0.85. In a confirmatory factor analysis, the results revealed that the MBTI-M items measured what they were intended to measure (Schaubhut et al., 2009, p. 17).

Extroversion-Introversion

Over the past several decades, extroversion-introversion dimension, defined as how people derive their energy, has received widespread acceptance in psychology (Dewaele, 2005). For introverts, the thoughts and ideas of the inner world are the source of their energy. They are more reserved and prefer limited social activities and relationships (Zhang, 2008). On the other hand, extroverts draw their energy from people and actions of the outer world. These

individuals are more likely to be gregarious and seek for a wide spectrum of relationships with others and social activities (Zhang, 2008). The main characteristics of introverts described by Emerson, English, and McGoldrick (2016) include “interest in the clarity of concepts and ideas; reliance on enduring concepts more than on transitory external events; a thoughtful contemplative detachment; and an enjoyment of solitude and privacy” (p. 13). By contrast, extroverts are described as individuals who “may develop some or all of the characteristics associated with extraversion: awareness and reliance on the environment for stimulation and guidance; action-oriented; impulsive in meeting life; frankness; ease of communication; or sociability” (Emerson, et al., 2016, p. 13).

Extroversion/introversion dimension is regarded as the most effective personality type influencing the way students learn (Dewaele, 2007; Howard, 2010; Wakamoto, 2009; Zafar & Meenakshi, 2012). Zhang (2008) claims that extroverted language learners tend to communicate even if they are not confident about the success while “introversion has the greatest chance of negatively affecting SLA” (p. 1). Brown (2000) stated that “it is reasonable to suggest that extroversion may facilitate the learning of spoken English, but that introverts have more patience and thus may excel in areas of pronunciation, reading, and writing” (pp. 155-156).

There is considerable evidence supporting the view that extroversion is the most dominant personality variable affecting second language acquisition (SLA) (Gregersen, 2003; Liyanage & Bartlett, 2013; Nakatsuhara, 2011). However, there are other findings supporting the view that introversion better predicts second language achievements (e.g., Goh & Moore, 1987; Leaver, Ehrman, & Shekhtman, 2005). Based on the findings of a wide range of studies, introverts are generally better language learners and have better study habits (e.g., Sanchez-Marin, Rejano-Infant, & Rodriguez-Troyano, 2001). Reilly (2000), for instance, concluded that while extroverts benefit from classroom participation, introverts significantly excel in all other aspects of learning contributing to higher final scores in exams and essays. In this regard, Sharp (2004) stated that extroverted students outperform introverted ones because they are more likely to have interactions with others and because they participate in class activities as a result of “their reduced inhibitions” (p. 5). This discrepancy in findings, as many researchers (e.g., Brown, 2000) argue, may be the result of employing different personality measures, or proficiency scales.

The findings of some studies have demonstrated the extent to which the extroversion level of candidates and their group members may influence the test scores awarded (Berry,

2004; Nakasuhara, 2011; Ockey, 2006). Berry argued that both extroverts and introverts were assigned higher scores when placed in a majority extrovert group; however, introverts obtained much lower scores when placed in a minority extrovert group. However, in Ockey's (2006) study, group members' personality showed no effect on introverts.

Thinking-Feeling

Thinking-feeling dimension refers to making decisions (Emerson, et al., 2016). Thinking individuals tend to make impersonal, analytical, detached, and objective decisions; whereas the feeling types' decisions are subjective and are affected by interpersonal factors (Emerson, et al., 2016). Emerson et al. (2016) emphasise that thinking people are considered competitive, independent learners in classroom; whereas feelers prefer cooperation more than competition and seek "reaching consensus with others over being correct according to objective standards" (p. 23).

Researchers have explored the effect of this personality dimension on learning. Ehrman (2008) states that thinkers can perform better on language learning tasks than feelers. Harris (2014) also stated that logical consequences and impersonal circumstances help thinking people to learn and make decisions rooted in logic and critical analysis while feelers care more about morality and social values. Gray's (1999) study on 400 college-bound students in the United States revealed that thinking students outperform feeling subjects in reading comprehension. Nevertheless, this study was replicated by Pfister (2000), who found different results, with the findings showing that feelers are better candidates in performing reading comprehension.

Cloze-Elide Test

Davies (1975) coined "cloze-edit" test for the first time. However, Bowen (1978) conducted the first empirical study of this test. Cloze-elide test (also known as intrusive word technique, text retrieval, text interruption, doctored text, mutilated text, and negative cloze test (Alderson, 2000, p. 225)) was originally used as a reading speed test which test takers were supposed to cross out the extra words on paper (Manning, 1987). In other words, superfluous wrong inserted words into a passage must be eliminated by a test taker (Alderson, 2000; Weir, 1990) which turns cloze-elide test into an error recognition task (Manning, 1987). Therefore, many researchers regard cloze-elide test as a "speeded reading" test (Davies, 1975), or a "timed reading test" (Valette, 1967) for predicting academic reading ability since

students are required to rapidly skim and scan a text for eliciting extraneous inserted words (Dow, 2013). Brown (2004) regards cloze-elide test as “a kind of test that inserts words to a text that actually do not belong to the text” (p. 204). A test taker’s task is “to detect and cross out the intrusive words” (p. 204).

In constructing this test, three issues should be considered (Farhady, 1996). First, the selection of an appropriate text with reasonable difficulty and length is the primary task. As a result, the selected text should meet the demands of the curriculum corresponding to the students’ level of proficiency (Baker, 2011). Accordingly, Lee (2008) comments that both genre and text type are helpful factors in selecting a text for cloze-elide test.

The second point is deciding on and determining the exact location of the words to be inserted. Alderson (2000) points to “pseudo-random” and “rational” insertion procedures. Manning (1987) describes various rational ways to damage a text by inserting superfluous words. According to Manning, the respondent is supposed to render the text meaningful by detecting the extraneous word which signifies his/her adequate incorporation of the language syntactic rules and efficiency in vocabulary. Manning also points out that the other types of word insertion for interjecting noise damages the placement or the type of word (part of speech). However, making a rational cloze-elide test requires adequate knowledge and effort; therefore, Manning suggests random insertion of words which includes “nearly all possible types of cloze-elide errors” (p. 9); however, it seems necessary to modify the randomness of the process to avoid the random insertion to “make sense in the content of the passage” (p. 24). Likewise, Farhady (1996) asserts that “random insertion procedure” (p. 225) is the most promising method. In this procedure, the words of the passage should be numbered; then, numbers should be selected in a random manner to insert the redundant words after or before the corresponding word to that number.

The final point is the selection of words to be inserted. According to Farhady (1996), a dictionary use in selection of words is the best option. However, some researchers have reported weaknesses in employing this method (Manning, 1987). Bowen (1978) claims that random insertion may lead to unequal outcomes: “some insertions are very conspicuous, while others manage to partially conceal themselves” (p. 3). In addition, Bowen comments that inserted words have to “damage the grammatical or lexical integrity” (p. 14), while by inserting the words randomly, some are inserted into appropriate places with no need for elimination. Baker (2011) proposes a solution to this problem. She states that, initially, superfluous words need to be inserted in a random manner; then, the test maker must adjust the words not to be

“conspicuous by their placement” and make sure they are “damaging grammatically” (p. 8).

Another important issue in selection of the superfluous words is the nature of the words that, according to Baker (2011), yields a more accurate method. He proposed that superfluous words need to be selected in the same range of frequency and register as the original passage, which include one-half function words and one-half content words. This seems necessary due to the findings of an eye-tracking study reporting that students fix content words more frequently than function words (Baker, 2011). The other salient issue in developing a cloze-elide test is using words from the academic word list or those 2,000 high-frequency words (Baker, 2011).

Manning (1987) posits that the scoring procedure is also an issue in cloze-elide test, wherein the student is likely to make two kinds of errors: errors of omission (O) and errors of commission (C). The former occurs when an extraneous word is not eliminated. The optimal number of these errors is equal to the number of superfluous inserted words in the passage. The latter occurs when an integral word to the passage is crossed out by the subject. The number of these errors varies from eliminating the words essential for preserving “the meaningful syntax to merely reflecting the stylistic preference by the student” (p. 26).

The first empirical study on cloze-elide test was conducted by Bowen (1978), who pointed to the high validity of cloze-elide test with subsets of the Michigan test of English language proficiency, the Michigan test of aural comprehension, and a test of written composition and concluded that this technique is a valid, reliable, and practical method. The findings from other studies have also shown moderate-to-high correlations between cloze-elide test and other tests of language proficiency such as listening comprehension, reading comprehension, vocabulary, and grammar and predictive power of the test on diagnostic abilities of test takers (Elder & von Randow, 2008).

The relationship between students’ cognitive style and their performance on cloze-elide test has also been taken into consideration. For example, Heidari (2012) investigated the performance of field dependent/independent students on cloze-elide test. The findings revealed that the cognitive style of the learners significantly affects their performance. Heidari concluded that field dependent participants could perform on cloze-elide test significantly better than field- independent subjects.

As the above review shows, literature on personality types is now very rich, and cognitive styles of language learners have been examined from different perspectives. However, very little is known about how personality types - extroversion/Introversion and

thinking/feeling - may be related to test methods (e.g., cloze-elide tests) and can predict language learners' performance on them. The single study which we located examined the effect of field-dependency and field-independency on Iranian EFL language learners' performance on cloze-elide test. However, much more studies of this type are needed to examine other personality types and establish their relationship with integrative test methods (e.g., cloze-elide test). The present study was conducted to fill this gap. Therefore, the following two research questions were formulated to focus the study:

1. What is the relationship between language learners' personality types and their performance on cloze-elide test?
2. To what extent can personality types predict language learners' performance on cloze-elide test?

Methodology

Participants

Initially, 362 intermediate and advanced Iranian language learners participated in this study, 68 of whom were left out of the study, because they were beginners. Further, another 11 language learners were left out because they did not complete the tests and the MBTI-M questionnaire properly. Finally, the data from 283 Iranian language learners who completed cloze-elide test, the MTELP test, and the MBTI-M questionnaire were used for data analysis.

Of the participants, 167 (59%) were female and 116 (41%) were male. The language learners' age ranged from 13 to 37. The majority of them, 234 (83%), were high school teenagers. Thirty-one (11%) of them were young adults in their twenties, and 18 (6%) of them were between 30 to 37 years of age. The language learners were native speakers of Farsi and Turkish.

The language learners were conveniently selected which is regarded as the most popular and practical strategy since the participants are selected based on convenience and ease of access (Dornyei, 2007). To this end, first, the nine most well-known institutes were chosen as suitable contexts because of the large number of enrolled students they had. Then, the goal of the study was fully described to the owners of these institutes. Finally, six institutes agreed to allow the researcher to collect the data. Then, the instructors and the students were informed about the aim of the study, respectively. They were assured that the results of the study would be kept confidential and would not influence their current English term outcomes. Finally, the instructors allocated two sessions for data collection.

Instruments

Three assessment tools were used to measure the students' reading comprehension, language proficiency, and personality types. A newly-designed cloze-elide test measured reading comprehension. Furthermore, a standard test of language proficiency known as the Michigan test of English language proficiency (MTELP) was employed to determine the students' level of proficiency. Finally, the MBTI-M questionnaire was used to identify the students' personality types.

Michigan Test of English Language Proficiency (MTELP)

Distinguishing between the intermediate and advanced learners urged the necessity to make use of a standard language proficiency test. After studying several current proficiency tests, the standardised Michigan test of English language proficiency was selected. This proficiency test was selected since it was not time-consuming to answer and the students could complete it in 40 minutes. The test is an appropriate assessment tool for evaluating proficiency in English. The high reliability and validity of this standard test have been also determined by many researchers (see Johnson & Lim, 2009; Lim, 2011).

Following Phakiti (2003), the students who obtained 70% of total scores were classified as advanced language learners, those scoring between 46% and 69% as intermediate, and those whose scores were below 45% as beginners. Thus, 68 students were excluded from the study since they could answer less than 45% of the proficiency assessment.

Cloze-Elide Test

The reading comprehension assessment tool in this study was the cloze-elide test. The following steps were followed to develop the test. The first step was selecting the most suitable topic. The six most recent commercial English conversation textbooks currently taught in English language institutes were selected to make a list of the first 20 popular topics. To this end, the New Interchange 2 and 3 (4th ed., 2012), Top Notch (2006), Touchstone (2013), Passages (2015), and English Result (2009) were studied to find the most popular topics. Then, the topics were sorted alphabetically and printed on sheets of paper. Next, 38 advanced and intermediate English language learners were selected randomly to survey the topic list and rank them. The results revealed that the first interesting topic that students preferred to read was "sports".

After determining the topic, several related passages were scrutinised and checked for their authenticity and readability. Finally, the texts were selected from an online website (wordville.com). Utilising the Fog's index readability scale (Farhady & Keramati, 1994), the readability of each passage was determined.

A table of random numbers ranging from 7 to 14 was created to select the nods (points of the insertion) (Manning, 1987). This was done not to leave any clue for language learners to find out the insertions easily. Then, another table containing a list of content and function words with different parts of speech was prepared to help random selection of the words. However, it was meticulously attempted to insert equal number of function and content extraneous words in each passage. In sum, there were 30 inserted words in both passages. Each sentence of the two passages contained one superfluous word, which implies that half of the sentences were damaged grammatically and half of them were not correct semantically (Manning, 1987).

Next, the texts were revised for several times to ensure that none of the inserted words could match the sentence structure. Therefore, any of the randomly selected words which existed in the genuine text was excluded and replaced by another one. Moreover, all the inserted words were similar to their adjacent ones in the text and no technical words were inserted (Baker, 2011). The newly developed cloze-elide test was piloted on a group of 33 randomly selected students. The results of pilot study showed that nobody could answer more than 20% of the test. Since the test was exactly designed based on Manning's instructions and there was adequate number of pilot students, the only probable variable decreasing the students' scores was the students' unfamiliarity with the topic.

The passages initially selected for this test were about the "Iditarod sled dog race" and "camping in American national parks", respectively, assumed to be unfamiliar topics for Iranian students. Thus, it was needed to select another two more proper passages. The first new text was about the story of basketball and the second one was about a sea otter that could play basketball. The first one included 143 words with 15 inserted words; the second one had 154 words with another 15 inserted ones. The readability of these two passages turned out to be 7.8 and 7.5, respectively. Finally, the newly developed cloze-elide test was piloted on another 31 language learners. The results showed that the appropriate reliability based on the Cronbach's alpha was 91.7. To establish the validity of the test, the researcher asked six testing experts to comment on the clarity, wording, content, and appropriateness of the test. The finalised cloze-elide test was administered to language learners in this study.

Myers-Briggs Type Indicator-form M (MBTI-M)

The third instrument was the Myers-Briggs Type Indicator-form M (MBTI-M) questionnaire. This personality type indicator has been one of the most extensively used personality questionnaires in the world (Harris, 2014), including four pairs of dichotomies. The major difference between this instrument and others is the ability to measure personality types whereas other instruments tend to assess personality traits (Harris, 2014).

The MBTI comes in many different languages and forms, and its four pairs of dichotomies compose its typology (Harris, 2014). The form that was utilised in this research was the MBTI- M, which involved 93 items (Hosseini, 2003). There were two options (A and B) for each item that the respondents needed to choose, the one which described their own attitudes, beliefs and preferences. It was designed based on the Item Response Theory (IRT), one of the most accurate item-rating methods for predicting the person's true type (Myers-Briggs & McCaulley, 1985).

The Persian version of the MBTI-M was administered to language learners along with the cloze-elide test in one session. According to previous studies (see Abedin, Fathabadi, & Ahangi, 2010), reliability indices for the four strands of this inventory in the translated version include: Extroversion/Introversion =.82, Sensing/Intuition =.65, Thinking/Feeling =.86 and Judging/Perceiving =.84. Furthermore, the construct validity of the Persian version of the MBTI is supported by many relevant studies (Marefat, 2006), showing the extraction of four factors that were in accordance with the MBTI developers' claim that this inventory can measure the four bipolar dimensions of personality (Myers & Briggs, 1998). Since the utilised questionnaire was translated into the students' first language, the allocated time to complete it was 25 minutes.

Scoring

The Manning's (1987) procedures were followed to score the cloze-elide test. Therefore, language learners got one credit for eliding the superfluous words and lost one point for crossing out those which belonged to the passage itself. For MBTI-M, there were two options (A and B) for each question; thus language learners needed to circle only one of them. Each option of the items indicated that language learners were more likely to be at one of the two extremes of each dichotomy (Harris, 2014). All responses were computed to determine the respondents' personality types.

Data analysis

The data were analysed utilising a number of statistical techniques to answer the research questions. Thus, IBM SPSS (version 22) was employed. The Cronbach's alpha was employed to determine the reliability of cloze-elide test. Next, the Pearson product moment correlation was also utilised to determine any possible relationship between the variables of this study. Finally, a standard multiple regression was conducted on the variables to illustrate if any of the personality types measured by MBTI-M could predict language learners' success in performing on cloze elide test. In order to explore the relationships between these abovementioned variables as well as estimating the degree of predictability of each personality type, it was decided to set the p values at $< .05$.

Results

The Correlation between Language Learners' Personality Types and their Performance on Cloze-Elide Test

The first research question was concerned with whether any relationship between the language learners' personality types and their performance on cloze-elide test could be established. Pearson correlation was run to answer this research question. Table 1 presents the correlation coefficients between cloze-elide test and personality types.

Table 1. *Correlations between Types and Cloze-Elide Test*

Personality Types	Coefficients	P values
Extrovert	-0.194**	0.001
Introvert	0.194**	0.001
iNtutive	0.000	0.994
Sensing	0.000	0.994
Thinking	0.135*	0.024
Feeling	-0.135*	0.024
Judging	-0.031	0.604
Perceiving	0.031	0.604

Note. * $p < .05$. ** $p < .01$.

The correlational analysis shows that only four types are correlated with language learners' performance on cloze-elide test ($p < .05$): Extrovert, introvert, thinking, and feeling. As Table 1 shows, there is a moderate, negative correlation between extroverted language learners and their performance on cloze-elide test ($r = -.194$, $n = 283$, $p = .001$, $R^2 = .03$) with

a very small effect size. By contrast, there is a moderate, positive correlation between introverted language learners and their performance on cloze-elide test ($r = .194$, $n = 283$, $p = .001$, $R^2 = .03$) with a very small effect size. There is a weak, positive correlation between thinking language learners and their performance on cloze-elide test ($r = .135$, $n = 283$, $p = .002$, $R^2 = .01$) with a very small effect size. By contrast, there is a weak, negative correlation between feeling language learners and their performance on cloze-elide test ($r = -.135$, $n = 283$, $p = .002$, $R^2 = .01$) with a very small effect size.

Predictive Power of Personality Types on Language Learners' Performance on Cloze-Elide Test

The second research question asked to what extent language learners' personality types could best predict their performance on cloze-elide test. To explore the degree to which each personality trait in this research contributes to the prediction of language learners' performance on cloze-elide test, a standard multiple regression was conducted. Based on the results shown in Table 2, R square value was .060. This means that the model explains 6% of the performance on cloze-elide test.

Table 2. *Model Summary of Predictors*

Model	R	R square	Adjusted R square	Standard error of estimate
1	.245	.060	.047	5.559

The results of the ANOVA test (Table 3) show that the predictive power of the model is statistically significant ($F_{(4, 278)} = 4.451$, $p < .002$).

Table 3. *ANOVA Test for Predictors*

Model	Sum of squares	df	Mean square	F	Sig.
Regression	550.220	4	135.555	4.451	.002
Residual	8591.504	278	30.905		
Total	9141.724	282			

In Table 4, the largest beta value belongs to introversion, indicating this personality trait makes the strongest contribution to explaining language learners' performance on cloze-elide test. After introversion, feeling makes a significant contribution to explaining language learners' performance on cloze-elide test. We checked the p value for each independent variable. If it was less than .05, the variable was considered to make a significant unique contribution to the prediction of the dependent variable. According to the results, introversion and feeling make statistically significant contributions to the prediction of language learners'

performance on cloze-elide test. It can be concluded that introversion and feeling are significant predictors of language learners' performance on cloze-elide test, while sensing and perceiving are not.

Table 4. *Coefficients for Predictors*

Model	Unstandardised coefficient		Standardised coefficient		
	B	Std. Error	Beta	t	Sig.
1					
(Constant)	12.221	1.14 8		10.642	.000
Introvert	.172	.053	.190	3.241	.001
Sensing	-.017	.033	-.032	-.528	.598
Feeling	-.116	.048	-.151	-2.404	.017
Perceiving	-.064	.042	-.092	1.508	.133

Discussion

The present study set out to investigate the relationship between language learners' performance on cloze-elide test and their personality types. The study also aimed to identify the most promising type in predicting the language learners' success in performing cloze-elide test.

The results of the study showed that performance on cloze-elide test correlates with extroversion, introversion, feeling, and thinking. Extroversion and feeling negatively correlated with performance on cloze-elide test; by contrast, introversion and thinking positively correlated with performance on cloze-elide test. This finding confirms the findings of Yahaya, Mohamed, and Ismail (2012), who reported that extroversion has a weak, negative correlation with language learners' performance on reading comprehension multiple-choice questions, whereas, introversion correlates positively with language learners' performance on multiple-choice tests measuring reading comprehension. The finding of the present study also supports Reilly's (2000) result which showed a weak, negative correlation between extroversion and language learners' test scores in reading comprehension tests and other language proficiency tasks. The finding of the present study, however, does not support the findings of the study done by Carrell, Prince, and Astika (1996), who found that although there is a weak, positive correlation between extroversion and language learners' performance on vocabulary and writing tests, there is no correlation between introversion and language learners' scores on reading comprehension.

Also, a weak, positive relationship between thinking and performance on cloze-elide test was found. This finding supports that of Gray (1999), who concluded that thinkers performed better than feelers in reading comprehension assessments. In his study, 93% of

thinking language learners demonstrated higher performance on multiple-choice and short answer questions. The reported finding of the present study is also in line with Schullery and Schullery's (2006) conclusion that thinkers obtain better scores on writing essays at both individual and group levels. However, there are studies with inconsistent results which cannot be supported by finding of the present study. Heidari (2012), for example, compared the relationship between thinking/feeling personality trait and 95 language learners' performance on cloze-elide test. He concluded that thinking language learners who analyse the situation deductively cannot perform on cloze-elide test as well as feelers do.

A low, negative correlation between feeling and performance on cloze-elide test was found. This finding supports Ghodrati, Rajaei, and Ebrahimpour's (2014) result which indicates that the relationship between language learners' performance on reading comprehension tests like cloze variants and feeling is weak and negative. In another study conducted by Marefat (2006), she concluded that there is a weak, negative relationship between feeling and language learners' performance on essay writing. The finding of the present study is incompatible with Ehrman and Oxford's (1995) finding that in performing language tasks, feelers perform better than thinkers.

In this study, extroversion and feeling showed a weak, negative correlation with performance on cloze-elide test. One reason that extroverted language learners could not perform successfully on cloze-elide test may be, according to Ellis (1994), they cannot make use of cognitive academic language ability as fast as introverts do. Another reason for negative correlation may be due to what MacKay (1982) calls "the speed-accuracy trade-off" (p. 492). Extroverts who are less fearful of risk taking (Ely, 1986) are not so conscientious and devoted to their tasks for stretches of time. Therefore, while performing on tests such as cloze-elide test, extroverted language learners tend to take the risk and make quick decisions in recognising and crossing out the inserted words. Consequently, extroverts are not necessarily accurate performers. Moreover, the negative correlation between feeling and language performance on cloze-elide test may be due to the fact that feelers' inductive reasoning preference (Heidari, 2012) makes it overwhelming for them to think analytically. Due to the nature of cloze-elide test, intrusive words may distort both the grammatical structure and the meaning of the text which requires the language learners to analyse each sentence individually. Therefore, while performing on the cloze-elide test, feelers are not satisfied with identifying grammatical distortions which need analytical inspection.

The positive relationship between introversion and thinking and language learners'

performance on cloze-elide test performance can be attributed to some factors. For example, Reilly (2000) indicated that introverts are better learners because they would not be easily distracted by the academic setting. They prefer studying social activities even after the age of 14 (Wolf & Ackerman, 2005). Language learners who participated in this study were almost above this age. In cloze-elide test, a language learner needs to concentrate on reading for long stretches of time. Therefore, introverts who are often more concentrators (Ehrman, 1989) and reflective thinkers (Grice, 2006) are at an advantage. According to Brown (2000), reflective thinking provides the ability to make a slower but more cautious decision which may help introverts to perform better on cloze-elide test that needs meticulous detection to complete the task successfully. Harris (2014), for example, stated that making use of logical consequences and impersonal circumstances can help thinking language learners obtain better scores because they are more likely to make logical and critical decisions while performing on exams. Sharp (2004) also asserts that thinkers are more able to separate insignificant details from significant details. Therefore, according to Meng and Petty (1991), this ability empowers them to considerably better perform on tests. Accordingly, to cross out the inserted words, learners need to have a good command of relating items to each other. Thinking language learners can detect patterns and sub-patterns and would not get lost in the totality of stimuli (Witkin, Oltman, Raskin, & Karp, 1971). Thinkers are able to identify and focus on a particular item and are not distracted by other items in the context. Therefore, in performing on cloze-elide test, these language learners who can “predict missing symbols” (Veisi, 2007, p. 81) and identify the superfluous ones are at an advantage.

The final finding of the study is that introversion and feeling can predict language learners’ performance on cloze-elide test, but introversion is the stronger predictor. This finding confirms the findings of Furnham, Chamorro-Premuzic, and McDougall (2003) who found that introversion could be a significant predictor of academic performance of learners. This finding is also in line with that of Dewaele (2007), Howard (2010), and Wakamoto’s (2009), who regarded introversion as the most effective trait predicating language learners’ achievements. However, the finding of the present research cannot support some other results. For example, Nejad, Bijami, and Ahmadi (2012) analysed the essays of 30 Iranian EFL learners and rated them analytically. They reported that introversion does not predict language learners’ scores on essay writing assessment.

That introversion is the strongest predictor of performance on cloze-elide test may be due to the assertion that “the main interests of the introvert are in the inner world of concepts

and ideas” (Myers- Briggs & McCaulley (1985, p. 13). These language learners have “reliance on enduring concepts more than on transitory external events; a thoughtful, contemplative detachment; and enjoyment of solitude and privacy” (p. 13). Introverts may be inclined to perform better on cloze-elide tests where eliding inserted words requires high levels of concentration. On the other hand, extroverts who get energy from the outer world and impulsive performers may find these tests too boring to pay much attention to. Additionally, extroverted language learners’ reliance on the environment for stimulation and guidance (Emerson et al., 2016) may be the major obstacle in achieving success on this test.

Conclusion and Implications

As the findings of the study show, a positive correlation between introversion and thinking and language learners’ performance on cloze-elide test is found. The findings also show the predictive power of introversion on performance in cloze-elide test. Iranian introverted language learners seem to be intrinsically motivated when they perform on integrative tests such as cloze-elide test. Introverted language learners who enjoy solitude and privacy do not like to be at the center of attention, and do their utmost for their own interest when sitting such tests. Thinking-oriented language learners are concerned with connections from the past through the present and toward the future. Hence, in performing on cloze-elide test, they can easily link what they have already read to what they are reading. This ability empowers them to detect the grammatical clues as well as the main idea of the text easily and recognize the intrusive words.

Despite many EFL settings like Germany, in Iranian setting, performing on new assessment methods such as cloze-elide test seems overwhelming. When this occurs, the most influencing contributions can be personality types. In such situations, introverted language learners, who would not be worn out and confused by unfamiliarity, will make efforts and concentrate on the task patiently until it is successfully completed. In other words, such language learners make conscientious decisions and are more devoted to the task, not necessarily sacrificing accuracy for speed, which consequently results in better performance. Additionally, introverted language learners do not usually seek for social attention or others’ compliments, but they have intrinsic motivation. As a result, when they perform a task, they do their best, even if they are not going to benefit from the result individually.

The conclusion that is warranted in this situation is the interaction between personality types and performance on integrative tests may yield more reliable results, confirming the

role of extralinguistic factors enabling language teachers to provide the instruction meeting language learners' cognitive styles (Ehrman, 2008; Sharp, 2008) and helping language learners make more informed decisions about their strengths and weaknesses "in a balanced course instruction" (Khaki, Ganjabi, & Khodamoradi, 2015, p. 29). Now that language learners with certain personality types perform better on cloze-elide test, language teachers can pay more attention to presenting materials best suited to students' traits; in other words, better performance may have a "backwash effect" on teaching and learning. Language teachers, therefore, will be able to determine the most appropriate curriculum for students with individual differences. As a result, students will be more enthusiastic about doing tasks which are designed in accordance with their personality types, desires, and preferences.

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