

The Impact of Noticing the Gap on Reading Development of Iranian EFL Learners with a Focus on Introvert vs. Extrovert Learners

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ABSTRACT

The present article aimed at investigating the impact of noticing the gap on reading development of Iranian EFL learners with a focus on introvert vs. extrovert learners. To do so, a group of 150 intermediate EFL learners in the Iranian context were given a piloted version of language proficiency test of NELSON. One hundred male and female learners whose scores were 1SD below and above the mean were selected and divided into two equal groups shaping the experimental and control groups for the purpose of the study. Following the test of general proficiency the learners also received a valid version of the Personality Trait Questionnaire; Extrovert vs. Introvert (developed by Al-Shalabi, 2003) based on which they were divided into extrovert and introvert groups. Both groups received a piloted reading pretest prior to the treatment phase as well. The experimental group received noticing the gap training techniques during the treatment phase while the learners in the control group received conventional reading comprehension training. Following ten weeks of treatment, the learners received the piloted version of the researcher-made reading comprehension posttest. The data gathered were put into statistical analysis and reported. A two-way ANOVA was run to investigate the effect of the treatment and personality traits on the performance of the subjects on the reading test and based on the results it was concluded that the treatment (noticing the gap) had a significant effect on the performance of the subjects on the reading test. The findings also asserted that the types of personality traits did not have any significant effect on the performance of the subjects on the reading test. The findings of the research could be employed by EFL teachers, educational researchers, and English learners in an attempt to develop a more learner-centered method of second language reading comprehension.

Keywords: Reading Development, EFL, Introvert, Extrovert Learners

INTRODUCTION

There is a growing consensus in the field of second language acquisition (SLA) that noticing is a prerequisite for learning to take place (e.g. Ellis, 1997; Robinson, 2003; Schmidt, 1990). A key figure in the discussion of noticing in SLA has been Schmidt. Schmidt (1990) proposed the notion of noticing the gap while engaged in the process of analyzing his own Second Language Acquisition (SLA). Schmidt (1990) states that in this way, learners become consciously aware of how their Inter language (IL) differs from the target forms. He argues that learners must pay attention to input in order to have the momentary subjective experience of noticing a form in L2 input in order for learning to take place and in this process learner must be conscious. Schmidt also asserts that a higher level of awareness, rule understanding is not necessary for learning although it can be facilitative. So for Schmidt conscious attention to linguistic form is essential for successful second language learning.

The other aspect of noticing concerns the role of output in promoting noticing. Swain (1995) and Suzuki and Swain (2008) have proposed four functions of output one of which is

noticing/triggering function of output. According to Swain producing output help learners to notice that there is something that they cannot say precisely; though they want to say it in the target language. This is what Swain (1998) later refers to as noticing the hole. She states that through output activities such as speaking and writing L2 learners notice their linguistic deficiencies which in turn can stimulate noticing the solutions or what Schmidt calls noticing the gaps.

Personality is one of the individual differences broadly established to have an outcome on learning generally and second language acquisition especially. It sounds that personality traits have types of result on the learners' language learning. In addition, many research projects have shown that corrective feedback in the classroom situation is a real need (Bitchener, Young, & Cameron, 2005).

Some teachers justify the principle by saying that extroverts are more sociable and better risk-takers and consequently, they would be inclined to learn faster and better than their introverted counterparts. Some early researchers (Pritchard, 1952 and Pimsleur, Sunland, and Meintyre, 1966, as cited in Bitchener, et al, 2005) were on the side of extroversion and regarded it as the popular stereotype of good learners whereas some other researchers believed that to be sociable and unreserved could be suggested as a proper strategy to be adopted by learners, mainly in the progress of communicative skills.

There appear to be a potentially valuable role for output in lexical acquisition and reading comprehension in that it may cause learners to notice gaps in their understanding from the texts and reading materials and search for possible solutions in the relevant input to fill them and solve the problem.

STATEMENT OF THE PROBLEM

Schmidt (1990) states that noticing a gap is a conscious process of learners becoming aware of a gap between their IL and target like forms they receive in the input and attempting to do something about. On the other hand, Swain suggests that output trigger noticing the gaps. Actually output cause learners to become aware of their linguistic problems and in order to remove it they pay attention to the input and try to notice the solutions or gaps there.

The purpose of the present study was to investigate whether subjective experience of a need for some vocabularies, grammatical points, and the like while reading materials and the chance of noticing the solutions (gaps) can increase the development of second language learners' reading comprehension.

The study also tried to find out the relationship between such an effect (reading comprehension development under the effect of noticing the gap) and learner styles such as being introvert or extrovert.

RESEARCH QUESTIONS

In order to fulfill the purpose of the study, the following research questions were proposed:

1. Does noticing the gap significantly affect reading development of Intermediate Iranian EFL Learners?
2. Is there any significant relationship between being introvert or extrovert and reading development affected by noticing the gap among Iranian EFL learners?

RESEARCH HYPOTHESES

Based on the research questions set the following hypotheses were formulated:

1. Noticing the gap does not significantly affect reading development of Intermediate Iranian EFL Learners.
2. There is not any significant relationship between being introvert or extrovert and reading development affected by noticing the gap among Iranian EFL learners.

PURPOSE OF THE STUDY

This study aimed at investigating the effect of using noticing the gap in teaching reading comprehension to the intermediate Iranian EFL learners. The study therefore tried to see if being exposed to noticing the gap in the reading comprehension practices could help the Iranian EFL learners develop better reading comprehension ability.

The study also aimed at checking if there was any relationship between personality styles such as being extravert or introvert and developing reading comprehension ability affected by noticing the gap among the participants of the study.

SIGNIFICANCE OF THE STUDY

Different studies (e.g., Izumi and Bigelow, 2000; Adams, 2003; Mackey, 2006) support the issue that participation in a noticing treatment facilitates learning. Learners must pay attention to the features of input they are exposed to and notice the gap between the target like forms in it and the current state of their linguistic knowledge through a kind of cognitive comparison which has been seen as one of the crucial processes in language acquisition.

In pedagogical terms two implications maybe stated for this study. One of them is that teachers should design tasks to promote noticing because increasing learners' attention to new lexical items can result in a greater likelihood of acquisition of those items. Also, teachers must provide learners with opportunities to produce language and in this way notice their lexical deficiencies and instead of giving them direct kind of feedback encourage them actively seek the solution or differences with more mental effort because processing information with more mental effort can increase the possibility of its retention.

REVIEW OF THE RELATED LITERATURE

The present part focuses on the significant concepts of eth study such as noticing the gap, reading comprehension, and the studies conducted in this regard. This section also discusses the introvert and extrovert styles and their relationship with reading comprehension.

Noticing the Gap and Reading

Based on his input hypothesis, Krashen (1981, 1982, and 1985) has consistently argued that comprehensible input is the only causative factor in second language acquisition. He believes that input converts into intake as learners connect form to meaning and notice gaps between their present competence and the input.

Proponents of noticing also give much attention to *noticing the gap* – learners' awareness of a mismatch between the input and their current inter-language (see especially Schmidt and Frota, 1986). Schmidt and Frota (1986), in fact, presented noticing the gap as an adjustment of Krashen's (1983) theory, the only difference being their additional claim that conscious awareness of the gap is a requirement.

Schmidt (1990) states that in the process of language acquisition, learners become consciously aware of how their Inter language (IL) differs from the target forms. He argues that learners must pay attention to input in order to have the momentary subjective experience of noticing a form in L2 input in order for learning to take place. Indeed, in this process,

learner must be conscious. Schmidt also asserts that a higher level of awareness, rule understanding, is not necessary for learning although it can be facilitative. Therefore, for Schmidt conscious attention to linguistic form is essential for successful second language learning.

Schmidt (1990) also proposed some factors that can influence a learner's noticing of the input. One of them that is relevant to the focus of the present study is individual ability. This concept refers to one's ability to attend to both form and meaning in L2 processing. Noticing ability varies from learner to learner since some of them are better input processors. This is due to a larger working memory capacity or their superior speed of analytical processing within working memory.

Salthouse (1996) has proposed that declines in processing speed across the lifespan can explain why adult L2 learners cannot learn a language as successfully as children in naturalistic environments; processing speed is considered to contribute to the ability to notice the gap.

The results of experimental laboratory studies of SLA which have attempted to clarify the effects of different conditions of exposure to input on L2 learning suggest that noticing is necessary for L2 learning (Ellis, 1993; Hulstijn, 1997; Williams, 1999 for overviews). Snow (1987, 1994) regards noticing the gap as one of the important abilities which jointly influence L2 learning,

Richards (2008) identified a number of areas that need to be addressed if learners are to move from the intermediate to an upper-intermediate/advanced level of language proficiency. Among them are "the capacity to monitor their own language use as well as that of others, and to notice the gap" (p. 21) along with "providing learners with a rich source of language learning experiences that allow for the gradual development of language skills across the different modalities of speaking, listening, reading, and writing" (p. 21). These experiences should allow learners to become successful monitors and managers of their own learning, aware of the limitations of their current level of language ability, but also aware of the means by which they can move beyond the intermediate learning plateau to more advanced levels of language use (Richards, 2008). One of the means is awareness of the emotional reactions and personality of the language learners as the whole experience of learning is built upon these concepts (Stern, 1991). Thus, the following section is allocated to one of the significant personality dichotomies that has attracted the attention of a number of researchers—introversion and extroversion.

Introversion vs. Extroversion

In personality psychology, a consensus has emerged that the most important differences in personality can be reduced to combinations of 5 basic dimensions, known as the 'big five' (Allik et al., 2010; Ely, 1983; Komarraju & Karau, 2005), which are said to be derived by several independent factor analyses of very large numbers of personality variables. The most important of these is the renowned dichotomy of introversion/extraversion. Eysenck (1965, p. 59) characterizes a representative extravert as:

Sociable, enjoys parties, has a lot of friends, hates reading or studying by himself. He desires excitement, takes opportunities...and is usually an impulsive individual. He is fond of useful jokes, always has a prepared answer...likes change...and becomes irritated fast.

From another point of view, he clarifies a representative introvert as:

[P]eaceful, timid, introspective, enthusiastic about books rather than people; he is reticent and reserved except to close friends. He enjoys planning ahead, "looks before he leaps", and mistrust the impulse of the moment. He hates excitement, takes issue of everyday life with suitable seriousness....does not lose his temper fast. (p. 59)

Extroverts and introverts also seem to have different reminiscence capabilities (Eysenck, 1999). Reminiscence is due to consolidation of the memory trace. This consolidation, which is a direct function of cortical arousal, has been proven to be stronger in the introverts, at least in the long run (after more than 30 minutes). Extroverts, on the other hand, tend to show better memory and greater reminiscence 'in the short run' (Eysenck, 1985).

Introversion/Extroversion and Language Learning

Personality is considered as one of the individual differences which is greatly agreed to have an influence on learning in general and second language acquisition (SLA) in particular. Stern (1991) also confirms that the whole "learning experience" involves emotional reactions and personality of learners.

The possible link between personality characteristics and language learning has always been in the foreground of attention of psycholinguists and psychometricians. Indeed, one of the major preoccupations of the present-day researchers is coming up with clear-cut answers to questions like why language learners who have similar backgrounds acquire a second language with varying degrees of success. One of the personality traits that have attracted a lot of attention is introversion/extroversion.

There are several studies devoted to the relation and effect of extroversion and introversion in EFL and ESL. These studies consist of the effect of extroversion/introversion on language learning strategies (Imanpour, 2005), relation between affective variables and speaking skill (Dornyei & Kormos, 2000; Kormos & Trebits, 2012), the impact of extroversion/introversion on vocabulary learning (Saemian, 2001), the effect of extroversion/introversion on evaluation of writing (Carrell, 1995), relation between personality and academic performance (Chamorro-Premuzic & Furnham, 2003; Pulford & Sohal, 2006; Rindermann & Neubauer, 2001), and influence of personality factors on reading skill (Li & Chingell, 2010). In the following section, a number of studies relevant to the focus of the present research (reading ability) would be discussed in details.

Previous Research on Introversion/Extroversion and Reading

A number of studies have been carried out to investigate if extroversion/introversion personality trait plays any role in the process of language learning. Brown (1994) "claims that extroversion may be a factor in the development of general oral communicative competence, which require face to face interaction, but not in listening, reading, and writing" (p. 174).

However, Rankin (1963) reported significantly better reading test performance for introverts than extraverts, whereas, Vehar (1968) determined no such significant differences in reading test performance between personality dimensions of extroversion and introversion, although, a small but significant correlation was gained between extroversion/introversion personality test scores and reading among male introverts. Introverts performed five times better than extroverts.

Busch (1982, cited in Brown, 2000) tried to determine whether there would be any relationship between extroversion/introversion and English proficiency among the EFL students in Japan. The study came out to reject the hypothesis that the extraverts are more proficient than the introverts. The study clarified that extroversion had negative correlation

with proficiency and the introverts had better reading comprehension and grammar proficiency than the extraverts.

Pazhuhesh (1994) studied the relationship between the personality dimension of extroversion/introversion and reading comprehension. In her study, introverts were significantly better than their extrovert counterparts.

Kiany (1997) examined the relationship between extroversion and English proficiency of 237 Iranian postgraduate students studying in English-speaking countries. He used Persian version of EPQ, TOEFL, IELTS, MCHE, and cloze tests. The results showed a negative and a significant relationship between extroversion and TOEFL subcomponent of reading comprehension; more extroverted learners tended to have lower scores on the reading comprehension. In addition, this study revealed that introverts outperformed extroverts at least in receptive proficiency tests and general academic achievement.

Mall-Amiri and Nakhaie (2013) focused on the difference between introvert and extrovert learners regarding their reading and listening abilities. Instruments for this study included Preliminary English Test (PET), Eysenck Personality Inventory (EPI), test of listening tasks (6 kinds of listening tasks, 80 items), and test of reading tasks (8 kinds of reading tasks, 60 items). The 108 homogeneous participants of the study responded to EPI and based on the result of this questionnaire, they were divided into two groups of extroverts and introverts. Then, both groups took the same test of listening and reading tasks. The results indicated that introverts perform significantly better in listening tasks than extroverts. Nevertheless, in reading section there was no significant difference between the two groups of students.

Despite the fact that a number of research projects have attempted to address the notion of introversion/extroversion from a range of varied perspectives (e.g. Bonner, Sillito, & Baumann 2007; Mitchell, Lebow, Uribe, Grathouse, & Shoger, 2011), a glimpse through the literature on the issue reveals that most of the studies addressing the effect of introversion and extroversion (e.g. Shackleton & Fletcher, 1984), have tried to find the impact of this personality trait on facets like speaking ability and verbal fluency. Thus, the present study aims at investigating the impact introversion/extroversion might have on the reading ability of Iranian EFL learners. Furthermore, no studies thus far (to the knowledge of the present author) have investigated the effect of noticing on reading development from the perspective of personality types. Hence, the present experiment seems a step forward in this regard.

METHOD

The purpose of this study was to find whether noticing the gap is conducive to reading comprehension development among Iranian EFL learners. Also the researchers intended to determine whether there is a relationship between noticing the gap affected reading ability and personality types such as being extrovert or introvert.

Participants

The participants of the study were 180 EFL students studying English in Raha Institute in Kerman. The researchers selected one hundred (100) intermediate level students from among 150 students after running a test of language proficiency (NELSON 050D) as the participants of this study. In order to collect a homogeneous sample they were given an English Language Proficiency test (NELSON 050D), a multiple choice reading comprehension test as the pretest. According to the obtained results of the mentioned tests (1SD below and above the mean) 100 homogeneous subjects were selected for the purpose of the research. Following the test of general proficiency the participants received the style questionnaire of extravert and introvert scale as well. The participants shaped the two experimental and control groups

of the study each of which including 50 learners. The experimental group included 22 extravert and 28 introvert learners, while the control group as comprised of 26 introverts and 24 extraverts. Those students whose scores did not fit the homogeneous pattern received the treatment just like others, though they were not considered part of this study.

Instrumentation

To accomplish the purpose of the present study, the following research instruments were used:

1. A Nelson Proficiency Test (level 050D) to assess the language ability of the participants and to see if they were homogeneous.
2. A multiple choice recognition pretest of reading comprehension to assess the learners' reading comprehension knowledge prior to the treatment phase. The test was developed and piloted in a group of 20 students with similar characteristics to those of the main participants of the study, and then it was modified. An item analysis also was run to see which items required modification. Content validity of the test was also examined through the professional view of the experts; two university professors. This could show if the learners enjoyed homogeneity in their reading comprehension ability before the treatment.
3. Another researcher-made reading comprehension test as a posttest. This test considered the intermediate level materials presented in the course book the learners were dealing with throughout the semester. The test was developed, piloted, and modified, and validated and used as the posttest.
4. A valid version of Personality Trait Questionnaire; Extrovert vs. Introvert (developed by Al-Shalabi, 2003) to represent the learners' style.

Procedure

A group of 150 EFL learners studying Top-notch series in Raha Language Institute in Kerman, Iran were given a piloted version of language proficiency test of NELSON. One hundred learners whose scores were 1SD below and above the mean were selected and divided into two equal groups shaping the experimental and control groups for the purpose of the study. Following the test of general proficiency the participants received the style questionnaire of extravert and introvert scale as well. The participants shaped the two experimental and control groups of the study each of which including 50 learners. Both groups received a validated reading pretest prior to the treatment phase. The experimental group received noticing the gap training during the treatment phase while the learners in the control group received conventional reading comprehension training. Following one semester of training and treatment (10 weeks, each week 2 sessions), the learners received the validated version of the researcher-made reading comprehension posttest. The data gathered were put into statistical analysis and reported.

Design

The present study was implemented on the basis of a true-experimental design (pretest, treatment, and posttest) which was formulated as follows:

A proficiency test (NELSON) was used for homogeneous subject selection. The control and experimental groups completed the questionnaire of introvert and extrovert learning styles. Both the control and experimental groups received a pretest of reading comprehension. While the experimental group received treatment in noticing the gap, the control group was exposed to the conventional methods of teaching second language reading comprehension. Both

control and experimental groups received the posttest of reading comprehension as well. Noticing the gap training was considered as the independent variable while reading comprehension was the dependent variable. Introvert and extrovert learning styles were the control variables of this study.

DATA ANALYSIS

Testing Assumptions

The present data were analyzed through the parametric tests of independent t-test and two-way ANOVA which are based on four main assumptions of interval data, independence of subjects, normality and homogeneity of variances. The first two assumptions do not have a statistical test. The researchers confirm that the data are measured on an interval scale and the subjects performed on the tests independently. The normality assumption was met. As displayed in Table 1 the ratios of skewness and kurtosis over their respective standard errors were within the ranges of +/- 1.96.

The assumption of homogeneity of variances will be discussed when reporting the results of the repeated measures ANOVA and independent t-test.

Table 1. Testing Normality Assumption

Group		N	Skewness			Kurtosis		
			Statistic	Statistic	Std. Error	Ratio	Statistic	Std. Error
Experimental	NELSON	50	-.232	.337	-0.69	-.907	.662	-1.37
	Pre-test	50	-.406	.337	-1.20	-.552	.662	-0.83
	Post-test	50	-.437	.337	-1.30	-.649	.662	-0.98
	Valid N (listwise)	50						
Control	NELSON	50	-.200	.337	-0.59	-.885	.662	-1.34
	Pre-test	50	-.023	.337	-0.07	-.578	.662	-0.87
	Post-test	50	-.144	.337	-0.43	-.674	.662	-1.02
	Valid N (listwise)	50						

NELSON

The NELSON test of general language proficiency was administered to 150 students. Based on the mean of 19.83 and standard deviation of 8.77 (Table 2), 100 subjects were selected for the main study.

Table 2. Descriptive Statistics; NELSON

	N	Mean	Std. Deviation	Variance
NELSON	150	19.83	2.962	8.771
Valid N (listwise)	150			

An independent t-test was run to compare the experimental and control groups' mean scores on the NELSON test in order to prove that both groups enjoyed the same level of general language proficiency prior to the administration of the treatment. As displayed in Table 3 the experimental (M = 20.02, SD = 1.57) and control (M = 20, SD = 1.56) groups showed almost the same means on the NELSON test.

Table 3. Descriptive Statistics NELSON by Groups

Group	N	Mean	Std. Deviation	Std. Error Mean
Experimental	50	20.02	1.571	.222
Control	50	20.00	1.565	.221

The results of the independent t-test ($t(98) = .064, P > .05, R = .006$, representing a weak effect size) (Table 4) indicated that there was not any significant difference between the experimental and control groups' mean scores on the NELSON test. Thus it can be concluded that they enjoyed the same level of general language proficiency prior to the administration of the treatment.

Table 4. Independent t-test NELSON by Groups

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal Variances Assumed	.017	.898	.064	98	.949	.020	.314	-.602	.642
Equal Variances Assumed			.064	97.998	.949	.020	.314	-.602	.642

It should be noted that the assumption of homogeneity of variances was met (Levene's $F = .017, P > .05$). That is why the first row of Table 4, i.e. "Equal variances assumed" was reported.

Pre-test of Reading

An independent t-test was run to compare the experimental and control groups' mean scores on the pretest of reading in order to prove that both groups enjoyed the same level of reading ability prior to the administration of the treatment. As displayed in Table 5 the experimental (M = 15.20, SD = 3.04) and control (M = 14.18, SD = 3.33) groups showed almost the same means on the pretest of reading.

Table 5. Descriptive Statistics Pretest of Reading by Groups

Group	N	Mean	Std. Deviation	Std. Error Mean
Experimental	50	15.20	3.044	.430
Control	50	14.18	3.336	.472

The results of the independent t-test ($t(98) = 1.59, P > .05, R = .15$, representing a weak effect size) (Table 6) indicate that there was not any significant difference between the experimental and control groups' mean scores on the pretest of reading. Thus it can be concluded that they enjoyed the same level of reading ability prior to the administration of the treatment.

Table 6. Independent t-test Pretest of Reading by Groups

	<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>						
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Df</i>	<i>Sig. (2-tailed)</i>	<i>Mean Difference</i>	<i>Std. Error Difference</i>	<i>95% Confidence Interval of the Difference</i>	
								<i>Lower</i>	<i>Upper</i>
Equal Variances Assumed	.223	.638	1.597	98	.113	1.020	.639	-.247	2.287
Equal Variances Assumed			1.597	97.187	.114	1.020	.639	-.248	2.288

It should be noted that the assumption of homogeneity of variances was met (Levene's $F = .22, P > .05$). That is why the first row of Table 6, i.e. "Equal variances assumed" was reported.

RESEARCH QUESTIONS

This study aimed at investigating the following two research questions;

1. Does noticing the gap significantly affect reading development of Intermediate Iranian EFL Learners?
2. Is there any significant relationship between being introvert or extrovert and reading development affected by noticing the gap among Iranian EFL learners?

The Personality Trait Questionnaire; Extrovert vs. Introvert developed by Al-Shalabi (2003) was employed to identify the personality traits of the participants in this study. The students whose total scores on the questionnaire were below 18 were considered as extrovert and the subjects whose scores were above 18 were considered as introvert. A two-way ANOVA was run to investigate the effect of the treatment and personality traits on the performance of the subjects on the reading test. Based on the results displayed in Table 7 it can be concluded that the treatment (noticing the gap) had a significant effect on the performance of the subjects on the reading test ($F(1, 96) = 15.43, P < .05, \text{Partial } \eta^2 = .139$, representing a large effect size). Thus the first null-hypothesis was rejected.

Table 7. Tests of Between-Subjects Effects

<i>Source</i>	<i>Type III Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>	<i>Partial Eta Squared</i>
Group	187.690	1	187.690	15.439	.000	.139
P-Type	1.210	1	1.210	.100	.753	.001
Group * P-Type	34.810	1	34.810	2.863	.094	.029
Error	1167.040	96	12.157			
Total	32191.000	100				

As displayed in Table 8 the experimental group (M = 18.92, SE = .49) outperformed the control group (M = 16.18, SE = .49) on the reading test.

Table 8. Descriptive Statistics; Posttest of Reading by Groups

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Experimental	18.920	.493	17.941	19.899
Control	16.180	.493	15.201	17.159

Based on the results displayed in Table 7 it was concluded that the types of personality traits did not have any significant effect on the performance of the subjects on the reading test ($F(1, 96) = .10, P > .05, \text{Partial } \eta^2 = .001$, representing a weak effect size). Thus the second null-hypothesis was supported.

As displayed in Table 9 the extrovert (M = 17.66, SE = .49) and introvert subjects (M = 17.44, SE = .49) showed close means on the reading test.

Table 9. Descriptive Statistics; Posttest of Reading by Personality Traits

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Extrovert	17.660	.493	16.681	18.639
Introvert	17.440	.493	16.461	18.419

Based on the results displayed in Table 7 it was concluded that the types of personality traits and treatment did not have any significant interaction ($F(1, 96) = 2.86, P > .05, \text{Partial } \eta^2 = .029$ representing a weak effect size). As displayed in Table 10 the introvert (experimental) subjects showed a higher mean while they showed lower mean for the control group.

Table 10. Descriptive Statistics; Posttest of Reading interaction between Personality Traits and Treatment

Group	P-Type	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Experimental	Extrovert	18.440	.697	17.056	19.824
	Introvert	19.400	.697	18.016	20.784
Control	Extrovert	16.880	.697	15.496	18.264
	Introvert	15.480	.697	14.096	16.864

Based on the results displayed in Table 11 it was concluded that the assumption of homogeneity of variances was met (Levene’s $F = 1.90, P > .05$).

Table 11. Levene's Test of Equality of Error Variances

<i>F</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
1.902	3	96	.134

Reliability Indices

The KR-21 reliability indices for the pretest and posttest of reading were .66 and .89, respectively.’

Table 12. KR-21 Reliability Indices

	<i>N</i>	<i>Mean</i>	<i>Variance</i>	
Pre-test	100	14.69	10.357	.66
Post-test	100	17.55	14.048	.89
Valid N (listwise)	100			

Construct Validity

A factor analysis was run to probe the construct validity of the tests employed in this study. The SPSS extracted one factor which accounted for 65.01 percent of the total variance.

Table 13. Total Variance Explained

<i>Component</i>	<i>Initial Eigenvalues</i>			<i>Extraction Sums of Squared Loadings</i>		
	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>
1	1.950	65.014	65.014	1.950	65.014	65.014
2	.976	32.521	97.535			
3	.074	2.465	100.000			

Table 14 displays the factor loadings of the tests under the only extracted factor. These results suggest a strong relationship between reading ability and proficiency.

Table 14. Component Matrix

	<i>Component</i>
	<i>1</i>
Pre-test	.979
Post-test	.965
NELSON	.782

RESULTS AND DISCUSSIONS

The results of the data analysis revealed that noticing the gap treatment had a significant effect on the performance of the subjects on the reading test. It was also pointed out that the types of personality traits did not have any significant effect on the performance of the subjects on the reading test.

The first finding of the present study is in line with the findings of the previous research conducted on the role of noticing the gap in the development of second language skills and components. Adams (2003) asserts that L2 output, reformulation, and noticing play significant roles in inter-language development. Al-Hedjin (2004) also emphasizes the positive role of attention and awareness on the second language acquisition. The present finding could support Karimian's (2008) research saying that "there is positive and statistically significant relationship between noticing and stimulated recall in vocabulary learning by Iranian EFL learners" (p.92). Regarding this finding, we can find the available literature on noticing the gap highly supportive (Kormos & Trebits, 2012; Mackey, 1999, 2006; Mitchell, et al, 2011; Qi & Lapkin, 2001; Robinson, 2003; Schmidt, 1994, 2001; Suzuki & Swain, 2008; Van Beuningen, 2010).

The second finding of the study however, is not in line with the previous research findings as a lot of the previous researches conducted believe that types of personality traits have a significant effect on the performance of the subjects on the acquisition of language skills and components. Allik et al, (2010) argues that the big five personality traits variously affect the SL development of the learners. Gass & Selinker (2008) also support the idea that individual differences are rooted in the personality traits and such traits affect one second language development. Pulford and Sohal (2006) also present that learners' personality affects their confidence in accomplishing the academic abilities.

The difference between the present finding and those of the previous research might lie in the social context and behavioral factors of the learners taking part in the study. The participants of the study, whether introvert or extrovert, have been well benefitted from noticing the gap while developing the second language reading comprehension

CONCLUSION

The present article was an attempt to investigate the impact of noticing the gap on reading development of Iranian EFL learners with a focus on introvert vs. extrovert learners. The results of the experiment revealed that the treatment (noticing the gap) had a significant effect on the performance of the subjects on the reading test. The findings also asserted that the types of personality traits did not have any significant effect on the performance of the subjects on the reading test. The findings of the research could be employed by EFL teachers, educational researchers, and English learners in an attempt to develop a more learner-centered method of second language reading comprehension.

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