



The Degree of Reading Comprehension Achievement of Iranian Introvert and Extrovert EFL Learners under Online Education

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Abstract

This study was an attempt to investigate the effect of on-line education on reading comprehension of extrovert and introvert EFL Learners due to the COVID-19 pandemic. To this end ,120 students were selected from Shariati high school in Isfahan, Iran. Subjects were pre-intermediate level (N=120) all male with the ranged age from 16-18 years. After taking an oxford placeman test (OPT), the participants also answered the Eysenck personality questionnaire (EPQ) to be categories into two personality types of introverts and extroverts. So, there were, two groups: 30 introverts and 30 extroverts. Both groups of students had pre and posttests using a reading performance test. The results show that online education had statistically significant effect on Iranian pre-intermediate EFL learners' reading comprehension ability for both extroverts and introverts. The results showed that extrovert learners outperformed significantly the introvert group in improving reading ability. The findings of the study suggest some practical implications in terms of applying technological tools in language teaching and learning in a foreign language context such as Iran. The conclusion of the research recommends that there is a need for using new techniques for providing feedback to EFL learners in reading, such as peer-review, Reading comprehension.

Keywords: Online education, Reading comprehension, Extrovert, Introvert, EFL learners

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1. Introduction

Learning English for non-native speakers has become so important that it cannot just be confined to formal school curriculum: it is an activity which people feel they need to engage in throughout their lives. many students still have difficulty in understanding and applying English in daily life. People across the world learn a foreign language in order to communicate effectively. English as the first international communicative tool has been widely employed for several decades (Graddol, 2006, as cited in Ugla, et al. 2013). Jamshidnejad (2010) argues that using English effectively in oral communication is, undoubtedly, one of the most common, but also highly complex activities people must learn for their interpersonal communication.

Technology plays an important role in enhancing teaching instruction to facilitate learning (Elas, Abd Majid & Narasuman, 2019). Digital learning is part of a modern system of learning and can be seen as an enhancement tool for learner's experience.

Online learning uses the internet to put teachers and students together to engage in learning experiences (Kuntarto, 2017). Online learning allows students to have more flexibility in their learning schedules, allowing them to learn whenever and wherever they choose (Nuraini et al., 2020). Students and teachers can connect using apps like a classroom, video conferencing, phone or live chat, zoom, meets, or a Whats app party (Lapitan et al., 2021).

It is generally believed that reading



comprehension is an interactive mental process in which a reader's linguistic knowledge, knowledge about a given topic, and knowledge of the world are interwoven. While reading, the reader constructs several representations of the text which have a significant role in comprehending the text (Kintsch, & Rawson, 2005). As Gambrell, Block, and Pressley (2002) stated, the most important constituent of reading is comprehension which helps students in dealing with the complicated texts they encounter. Actually, comprehension is the ultimate goal of reading, but this goal cannot be achieved unless learners can recognize the words in the reading text.

The learners' characteristics determine the success of a model or learning medium. According to Nakayama, all of the learning literature suggests that not all students will be successful in online learning. This is attributed to factors such as the learning environment and learner characteristics (Nakayama et al., 2007).

Studies on personality factors generally focused on extroversion and introversion aspects of personality. Extroversion–introversion dimension is the most researched personality trait in language studies (Dörnyei, 2005; Ellis, 2008). An individual personality with extrovert characteristic tends to change environment with his/her own thoughts and emotions. Myers (2003), underlined that extrovert inevitably seek stimulation outside themselves, and their orientation of energy is toward the outer world.

Due to the differences in personality traits such as extroversion and introversion, little research has been done on the effectiveness of online teaching on reading skills, which has a very effective role in language teaching in Iran. In the present research, the main purpose was to investigate the effect of online education on reading comprehension of introvert and extrovert EFL learners.

Although many other factors can influence the success of language learning, the personality factor is an internal factor that must not be rejected as the ignorance of the relationship between personality factors, and language learning will have a negative influence on teaching and learning effect. It is claimed that learners bring their emotional states to class, which affects how L2 is achieved and not just their cognitive abilities (Zafar & Meenakshi, 2012). Likewise, differences in individual learners could principally affect L2 learning results, which

in turn increased or decreased L2 learning (Montero et al., 2014).

The present research was an attempt to ameliorate the pedagogical and practical implication and application of the effectiveness of online education on reading comprehension of introvert and extrovert EFL learners to find if introverts benefit from online education considering reading comprehension achievement or not; This study also examined that extroverts benefit from online education considering reading comprehension achievement or not; In addition, it deals with a significant difference between reading comprehension achievement of introverted and extroverted learners in an online education context.

1.1. Research Question

Is there a significant difference between the degree of comprehension achievement of introvert and extrovert EFL Learners under the online education?

1.2. Review of the Related Literature

During the past few decades, technological innovation has had a profound effect on learning designs. Many successful practices concerning computer and network technologies in education have been reported, such as the development and application of adaptive learning systems (Hwang, 2003; Tseng et al., 2008), computer-assisted testing systems (Yin et al., 2006), and web-based cooperative learning systems (Chu et al., 2009; Hwang, Yin, Hwang & Tsai, 2008). With the aid of wireless communication technology, educational practice can be embedded in everyday life. Technology, then, plays a significant role in making learning more efficient and productive nowadays.

Online teaching is considered as a technological instruction in the present study. The main purpose of the present study was to investigate the impacts of online teaching and learning on extrovert versus introvert Iranian EFL learners' reading comprehension performance.

1.3. Theoretical Framework of this study

This study is written to add to the literature reviewed on EFL learners' perceptions and transformative performances toward using online learning platforms as mainstay instruction in IRAN during the COVID-19 pandemic outbreak.

In this digital age, instructors have increasingly used computers as an aid in foreign language teaching (Saeed, 2015). While investigating the relationship between computer-based reading



activities and reading achievements among Hong Kong and U.S. students, Wang and Li (2014) found that there is no significance difference in the students' reading scores in their reading processes.

Video technologies may provide a useful tool for ensuring that modelling interventions requiring repetition are delivered consistently. VM integrates modelling and visually cued instruction to create an effective strategy for teaching new behaviors, which are generalized and maintained over time (Dowrick, 1999).

Instruction in reading fluency has shown that the improvement in reading achievement and reading fluency instruction is typically linked with guided, repeated oral reading instruction (Rasinski et al., 2011). Extensive research has shown that RR has increased oral reading rate, accuracy, and comprehension for students with and without disabilities in elementary, middle, and high school (Therrien, 2004).

1.4. The Role of Technology in Language Learning

Many instructors use multimedia embedded in PowerPoint slides to help them present information in multiple formats, such as text, images, sound clips, and video clips (Karakaya, Ainscough, & Chopoorian, 2001; Schär & Krueger, 2000). It allows instructors to introduce alternative types of information to facilitate varied learning styles in the classrooms. In addition, PowerPoint presentations can also be used to provide a structure for lectures and discussions that help students gain focus and organization of course material (Debevec & Shih, 2005). Many researchers on multimedia instruction have also found that using different modes of instruction helps students process information and better comprehend the content (Lambert & McCombs, 1998). It is believed that when used wisely, multimedia instruction will be able to foster deeper learning among students and benefit students with different learning preferences by presenting materials in more inclusive rather than exclusive ways (Mayer, 2003).

Some students performed better when they were exposed to computer-assisted learning tools, whereas others had better exam scores under the lecture format without computer-aided instruction (Ott, Mann, & Moores, 1990).

Loyd and Gressard (1986) showed that positive attitudes toward computers are positively correlated with teachers' extent of experience

with computer technology.

Educators are often resistant to using computer technology in the classroom. Therefore, changing teachers' attitudes is a key factor in fostering technology integration (Marcinkiewicz, 1993–1994). Stevens (1980, as cited in Violato, Mariniz, & Hunter, 1989) identified teachers' attitudes as well as expertise in using computers as major factors in the adoption of computers in the classroom. According to Hignite and Echternacht (1992), it is critical that teachers possess both positive attitudes and adequate computer literacy skills to successfully incorporate technology into the classroom.

Teaching models using technology as a tool in the classroom to help students achieve must be provided. Teachers need to conceptualize how the use of various programs which facilitate teaching and learning. This can more easily be done if they actually see students using technology that has been integrated into a curriculum. Teachers need to be aware of the different kinds of programs that can be used in large and small group instruction.

The main issues were related to limited access to the internet and the lack of technical knowledge. On the other hand, examined the influence of COVID-19 impact on students' performance in higher education in the world, revealed that such circumstances developed students' learning approaches, their efficiency, and learning achievement.

Within this study, learners were given opportunities to collaborate in Synchronous Computer-Mediated Communication (SCMC) in language learning in which their interaction between two or more learners concurrently transfer through a computer. Collaboration is also measured through learners' actions in planning, evaluating, valuing, and monitoring their own and peer offerings.

1.4.1. Mobile-assisted language learning (MALL)
Mobile learning as an educational activity makes sense only when the technology in use is fully mobile and when the users of the technology are also mobile while they learn. These observations emphasize the *mobility* of learning and the significance of the term "mobile learning". Traxler (2007) and other advocates of mobile learning define mobile learning as wireless and digital devices and technologies, generally produced for the public, used by a *learner* as he or she participates in higher education. Others define and conceptualize mobile learning by placing a



strong emphasis on the *mobility* of learners and the *mobility* of learning, and the experiences of learners as they learn by means of *mobile* devices.

Traxler (2005) explicates that mobile learning is the provision of education and training on mobile devices. Another technocentric definition was provided by O'Malley et al. (2003) saying that it is any sort of learning that takes place when the learner is not at a fixed, predetermined location, or learning happening when the learner exploits learning opportunities offered by mobile technologies.

Sharples (2007) pointed out that "mobile learning gives us the opportunity to design learning differently, to create extended learning communities, to provide expertise on demand, and to support a lifetime of learning" (cited in Ticheler, 2010, "Mobile Learning"). Walker (2007) shared focusing on context; he stated that M-learning is not merely the use of portable devices, but learning across contexts (cited in Ticheler, 2010). It is to say that M-learning supports EFL learner's individual learning style, providing the opportunity to be self-creative and to learn in different contexts.

1.5. Reading skill

Reading proficiency is the most fundamental skill for academic learning and success in school. As Grabe (2002) stated, we were never born to read because human being invented reading only few thousand years ago. Therefore, skills such as listening and speaking are developed much sooner than reading and writing. However, when reading was activated, people read for different purposes. For instance, some read for pleasure and find it interesting which is called extensive reading, and some read for specific and detailed information which is called intensive reading (Harmer, 2008).

1.6. Extroversion Versus Introversion

Sharp (1987) held that extroversion can be defined by believing that they are fully interested in the external objects, responsiveness, and a ready acceptance of external happenings. On the whole, extroverts certainly seek for inspiration outside themselves, and their energy alignment is concerning the outer world (Myers, 2003). As stated by Vandenbos (2007), extroverts are affected by the environment around them more than by themselves. Extroversion is a direction of personal interests towards the environment around the people and objects rather than the world around the personal experience. Concisely,

extroverts take the attitude of living, and comprehend it; nevertheless, introverts wish to recognize it in advance (Myers, 2003).

Having an introverted personality points to the unwillingness of people in putting themselves forward in groups. Bergin (2006) stated that some people suffer early traumatic experiences that for example cause them to act in the background as a defense mechanism, for example and there are many different possibilities.

The introvert people are described by Naiman et al. (1978) and McDonough (1981, as cited in Omidavri et al., 2016) as anxious learners which are less willing to take part in activities. However, Razamjoo and Shaban (2008, as cited in Sarani et al., 2011) argue that this introvert people are interested on reading and writing activity. Further, Swain and Burn bay (1976, as cited in Lestari et al., 2015) also emphasize that introvert learner as well organized and serious so that they are also seen as better language learner.

On the other hand, Prawira (2013, p.217) describe that the extroverted learners actively express their thought verbally, like learning together with groups, and enjoy cooperative problem-solving processes. They tend to involve themselves more in groups' activities because that are social, prefer verbal communication, act spontaneously, and are not influenced by other's inference. Therefore, the extroverted students will look more active in the teaching and learning processes than the introverted students.

1.7. Extroversion/ Introversion and Language Learning

According to Sadeghi (2012) and Sharp (2008), introverted students can learn perfect through quiet and thoughtful reflection. Their attention continues inward to their own ideas, thoughts, and impressions. Regarding classroom activities, introverted types tend appreciating reading, written, lectures, and research tasks in verbalized work. They also tend to be self-supporting and prefer to work independently. The introverted types need time to process internally (Molinuevo & Torrubia, 2013).

Moreover, in the sense of extrovert and introvert personality with the success of language learning, Lightbown and Spada (2006) stated that many classroom teachers believe that in second or foreign language learning, extroverts are more successful than introverts especially in their communicative ability. In line with the previous research, many language teachers and learners



believe that the role of extrovert and introvert personality constitutes a major factor contributing to success or failure in language learning (Naiman et al.'s, 1978).

1.8. The Role of Technology in the Second Language Learning

Technology has made learning settings more learner-centered where the context of language and cultural learning and teaching methods has become more customized. Students indeed not only learn a second language, but also get familiar with technological literacy as well (Poureau, & Wright, 2013). Technology could be a powerful tool with positive effects on the second language learning skills if it is used properly (Gill, 2011).

The use of mobile devices has dramatically changed teaching a second language because of its availability in out-classroom settings (Abdollahpour & Maleki, 2012). And the other side, broad uses of CALL technology in the second language teaching has led to emergence of some new technologies that can be used in more than one language skill (Stockwell, 2007).

Lara and Jean (1999) conducted a program for advancing reading comprehension skills. The problem of lacking comprehension skills was clear through teacher observations, student and parent surveys, comprehension checklists, teacher journals, and reading inventories. The analysis indicated that many factors influence a student's reading comprehensions such as poor questioning techniques by the teacher, lack of student motivation, and lack of self-monitoring during reading.

2. Methodology

2.1. Participants of the Study

To fulfill the objectives of this study, 120 male EFL learners, studying English, with the age range of 16-18, participated Iran at the time of the main data collection procedure in this study. These participants were selected through the reading test of Shariati high school Isfahan in IRAN. After taking an Oxford Placement Test (OPT), the participant also answered the Eysenck personality questioner (EPQ) to categories into two personality type of introvert and extrovert. There here, two groups: 30 introverts and 30 extroverts Accordingly, sixty out of one-hundred twenty pre-intermediate learners were selected as the members of the current research.

2.2. Instruments

For the purpose of collecting data in this study,

three data collection instruments were utilized.

An OPT (Syndicate, 2001) was used to homogenize the selected participants of the current investigation. The participants were given 40 minutes to answer the questions. The Eysenck Personality Questionnaire (EPQ) was used to assess the personality traits of psychoticism, extraversion, and neuroticism.

The pre- and post-reading comprehension tests were administered to the participants. The pre-test was administered before treatment and the posttest was administered after treatment. The topics of reading passages were: Stephan's life, the problem of insomnia, improving memory, and learning language. The whole items were twenty. The test format was multiple-choice item and it was a researcher-made test. The texts were based on the learners' proficiency level. The time allowed was 25 minutes as determined at the piloting stage.

2.3. Materials

2.3.1. Textbook

The learners' textbook was Touchstone 2 by McCarthy, McCarten, and Sandiford (2010). Lessons 2 to 6 were non-randomly selected to teach. The lessons included dialogs, speaking sections, reading texts, grammatical sections and exercises.

2.3.2. WhatsApp

This application provides the teacher the opportunity of checking learners' attention to the shared information by putting their names in a list that shows that who has read the text, has played the video clip, or has seen the image.

2.4 Data Collection Procedure

This research was carried out within the six-week period with the classes that took place two times a week (12 sessions in total) and each session lasted sixty minutes. The following phases present the data collection procedure of the present study:

The first step was to homogenize the participants' proficiency level. To do so, an OPT was applied to homogenize language learners based on their proficiency level. The proficiency level of the selected participants was pre-intermediate. In addition, the EPQ was administered to specify and select the extrovert and introvert participants. After selecting the participants, the teacher divided learners into the two main groups: The first group was the extrovert group; and the second group was the introvert group.



In the next phase, a reading pre-test was administered to all participants to see their current status in reading ability.

2.5. Design of the Study

The current study is based on a quantitative study and it was based on the quasi-experimental design to investigate whether adopting online education has any significant effect on extrovert/introvert pre-intermediate students' reading comprehension or not. Accordingly, the design of this study was on a quasi-experimental method (pre-test- treatment- post-test control group). A quasi-experimental design lacks the random assignment that was a requirement of true experimental research.

2.6. Data Analysis

To analyze the collected data in this study, the SPSS software version 25 was utilized. The first part of the data analysis was to calculate descriptive statistics (mean, max, min, Standard

Deviation). In order to analyze the research question, which was related to see the significant difference between the degree of comprehension achievement of introvert and extrovert EFL Learners under the online education, an independent samples t-test was applied.

3. Results

3.1. Descriptive Statistics for the Pretest Scores

After assigning the participants of the study into two experimental groups, they were given a reading comprehension test to examine the possible initial differences between the two groups regarding their reading comprehension before implementing online education. It is worth mentioning that the maximum score was 24 for both the pretest and the posttest. Tables 1 and 2 show the results of an independent samples t-test used to analyze pre-intermediate EFL learners' scores in the pretest of reading comprehension.

Table 1. Group statistics for the Results of Reading Comprehension Test (Pretest)

	Groups	N	Mean	Std. Deviation	Std. Error Mean
pretest	experimental 1 (Extrovert)	30	13.7000	3.63081	.66289
	experimental 2 (Introvert)	30	13.2667	3.23700	.59099

The mean of the introvert's group was simply .44 points lower than the mean of the extroverts at the beginning of the study.

between the two groups was statistically significant at the beginning of the study an independent samples t- test was run. The results are in Table 2.

3.2. Inferential Statistics for the Pretest Scores

In order to examine if the mean difference

Table 2. Independent Samples T- Test for the Pre-Test of Reading Comprehension

	Levine's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Equal variances assumed	.232	.632	.488	58	.627	.433	-1.34	2.21
Equal variances not assumed			.488	57.25	.627	.433	-1.34	2.21

The independent sample t-test procedure presented two tests of the difference between the introvert and extrovert groups. The Levene statistic showed that the significance value of the statistic was equal to (Sig. = .632). Since this value was higher than (.05), it could be assumed that the two groups had equal variances and as a result, the first test was taken into consideration. Based on Table 2, there was no statistically

significant difference between the mean scores of the two groups in the pretest of reading comprehension $t(58) = .488, p=.627$, two-tailed). As indicated by the data, the two groups were the same in terms of their reading comprehension before attending online education.

3.3. Descriptive Statistics for the Posttest Scores

To the extent that the research questions are



examined, i.e., whether online education affect extrovert and introvert EFL learners' reading comprehension, an independent samples T-test was run to the results of the post test. It was run to compare the two experimental groups in terms

of their reading comprehension ability after attending online education. Before running the second t- test, descriptive statistics were presented for the post-test scores. The results are in Table 3.

Table 3 Group Statistics for the results of Reading Comprehension Test (Posttest)

	Groups	N	Mean	Std. Deviation	Std. Error Mean
posttest	experimental 1 (Extrovert)	30	15.0000	3.26950	.59693
	experimental 2 (Introvert)	30	14.2000	3.07829	.56202

Table 3 shows the values of the means and standard deviation along with standard error of the mean for the two groups on posttest. The mean score of the extrovert group (mean_{extrovert} = 15.00) was .80 points higher than that of the introvert group (mean_{introverts} = 14.20). The scatteredness of the scores for the extrovert

group was slightly higher than that of the introvert group (SD_{extroverts} = 3.26, SD_{introverts} = 3.07).

3.4. Inferential Statistics for the Pretest Scores

An independent samples t- test examined if the mean difference was statistically significant for the post-test scores. The results are given in Table 4.

Table 4 Independent Samples T- Test for the Post-Test of Reading Comprehension

Levene's Test for Equality of Variances			t-test for Equality of Means			95% Confidence Interval of the Difference		
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Equal variances assumed	.093	.762	.976	58	.333	.800	-.84	2.44
Equal variances not assumed			.976	57.79	.333	.800	-.84	2.44

The significance value of the statistic for the Levene was (Sig. =.762) that was higher than (.05). Thus, it could be assumed that the two groups had statistically equal variances and therefore the findings of the first row were used. The results revealed that online education does not affect the reading comprehension ability of the two groups differently $t(58) = .976, p = .333$, two-tailed).

As indicated by the results, the participants in the extrovert group performed slightly better than their counterparts in the introvert group on the posttest of reading comprehension. In order to investigate if the differences between the pretest and the posttest scores of reading comprehension within groups were statistically significant, paired samples t-tests were run to the results of pretest and the post-test of the two groups. The results are shown in Tables 5 and 6.

Table 5 Paired Samples Statistics for the Pretest and the Posttest of Reading Comprehension

Groups		Mean	N	Std. Deviation	Std. Error Mean
experimental 1 (Extrovert)	Pair 1 pretest	13.7000	30	3.63081	.66289
	posttest	15.0000	30	3.26950	.59693
experimental 2 (Introvert)	Pair 2 pretest	13.2667	30	3.23700	.59099
	posttest	14.2000	30	3.07829	.56202

As it was shown in Table 5, both groups had progressed in their reading comprehension at the

end of the study. The mean difference between the pretest and the posttest for the extrovert



group amounted to (1.30) points. The results of the analyses suggested that the progress within groups for the extrovert group was slightly higher than that for the introvert group. Paired samples

t-test was run to examine if the mean difference within groups was statistically significant. The results are in Table 6.

Table 6 Paired Samples T- Test for the Pretest and the Posttest of Reading Comprehension

		Mean	SD	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
experimental 1 (Extrovert)	pretest - posttest	-1.30	.534	-1.49	-1.10	-13.31	29	.00
experimental 2 (Introvert)	pretest - posttest	-.93	.58	-1.15	-.71	-8.76	29	.00

Based on the results of the paired samples t-test, this improvement was statistically significant for both of the experimental group ($P \leq .05$). In other words, the two experimental groups made a statistically significant progress in the posttest of reading comprehension.

The results of the independent samples t-test for the post-test as given in Table 4 revealed that there was not any statistically significant difference between the two experimental groups in terms of their reading comprehension. Based on the results, the extroverts performed slightly better than the introverts in the post-test did. However, the difference was not statistically significant. The results showed that online education did not lead to different outcomes in reading comprehension of introverts and extroverts and thus the third null hypothesis was supported. In other words, there is not any statistically significant difference between Iranian extrovert and introvert pre-intermediate EFL learners' reading comprehension after attending online education.

4. Discussion and Conclusion

According to Pavalache-Ilie and Cocorada (2014), the online education method provides a wide variety of learning tools that learners may require. This approach allows learners to access a variety of learning forms related to their individual learning styles. The COVID-19 pandemic has led to adoption of online education on a large scale around the world for the first time. One of the less discussed areas of online education is the need of motivation for online learning. In traditional classes, students usually actively participate in academic activities due to their face-to-face engagement with instructor and class fellows. students reported that learning in the conventional classroom was more motivating than distance learning. As indicated by

the majority of the students, they can manage their study time effectively online and can easily complete assignments in time but complete courses cannot be completed online.

The online education course having a supplementary tool motivated them to learn when compared to the traditional one (Arroyo, 2011). Students became more active when they were assigned to do several activities in online learning environments.

Online education has been on the border for a long time. The COVID- 19 pandemics made it the mainstream. We conducted a survey to know the opinion of undergraduate students in a high school in IRAN on different aspects of online education during the COVID-19 pandemic. this study showed that the students considered online education a viable alternative under the current circumstances. We however think that there is scope for improvement. teachers should try to make online education better acceptable among students. The COVID-19 pandemic has led to adoption of online education on a large scale around the world for the first time. The lessons we learn about online education during this pandemic will be useful during future exigencies (Chatterjee & Chakraborty, 2020; Skulmowski & Rey, 2020).

The principal conclusion of the current research was that versions of CALL-based teaching, here online teaching model, had a significant effect on developing extrovert/introvert EFL learners' reading comprehension ability. This indicated that technological tools can be regarded as efficient means in manipulating L2 skills and subskills.

Based on the results, the extroverts performed slightly better than the introverts in the post-test did. However, the difference was not statistically significant. The results showed that online



education did not lead to different outcomes in reading comprehension of introverts and extroverts and thus the third null hypothesis was supported. In other words, there is not any statistically significant difference between Iranian extrovert and introvert pre-intermediate EFL learners' reading comprehension after attending online education.

The results of the present study revealed that applying online education had a significant effect on introvert EFL learners' reading comprehension ability. On the other hand, there was statistically significant difference between the performances of the introvert group in both reading pre- and post-tests. Moreover, the results showed that the extrovert group had a significant effect on both reading comprehension performance through online education. Besides, there was a statistically significant difference between the performance of introvert and extrovert groups as the experimental groups of this study in reading post-test. The results showed that extrovert learners outperformed significantly the introvert group in improving reading ability.

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