EFFECTIVENESS OF VIRTUAL VS. NON-VIRTUAL TEACHING IN IMPROVING READING COMPREHENSION OF IRANIAN UNDERGRADUATE EFL STUDENTS

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ABSTRACT
Virtual learning, in particular, has been defined as any system of education and instruction that brings together participants who are separated by geographical distances or time. Notably, in virtual learning environment interactive telecommunications systems are utilized to connect learners, resources, and instructors. Accordingly, the present study sought to investigate the significant effect of virtual teaching on improving reading comprehension of undergraduate EFL university students. To this end, from the population of students majoring in English translation, at Islamic Azad University, Isfahan, Iran, one control group, one virtual class, and one blended group were selected, each consisting of thirty participants. Subsequently, the virtual group was exposed to web-based technologies throughout the entire term while the students in the control group were taught through traditional method. Moreover, the instructor in the blended group used both traditional and innovative methods. The results of the t-test revealed that the group which was taught through web-based technologies during the term progressed substantially in comparison with the other two groups. Moreover, there appeared to be a significant difference between the pretest and posttest in the virtual group. Evidently, the results of the present study may have practical implications for EFL teachers, online instructors, distance education programmers, materials developers, and syllable designers.

Keywords: Blended learning, geographical distance, reading comprehension, virtual learning, web-based technologies.

INTRODUCTION
The term virtual environment, like online learning and e-learning, is used to describe “distance education, where the learning group is separated and where interactive telecommunications systems are used to connect learners, resources, and instructors” (Marrotte-Newman, 2009). The presence of new technologies in distance learning has altered the ways through which students interact with both their teachers and their classmates (Kaminski, Switzer, & Gloeckner, 2009). One of these new technologies is online learning, which is an educational delivery method that brings together participants who are separated from each other through geographical location and time (Filimban, 2008).
The virtual classroom is becoming more prevalent in all academic settings, particularly in distance education (Archambault and Crippen, 2009). Virtual classes provide students with access to many educational opportunities that might not otherwise exist. Based on current growth trends, more students will continue to take virtual courses in the future (Rice, 2009). He observed that regardless of how virtual schools are operated, the rise in the number of virtual schools has been dramatic.

Virtual learning environment and electronic learning setting have received considerable critical attention in the discipline of language teaching in general and reading comprehension in particular. Developments in the field of distance education have led to a renewed interest in virtual learning studies and electronic-learning environments. Research on this topic has been mostly restricted to limited comparisons of virtual and non-virtual environments in terms of attrition rate, sense of community, grade and satisfaction. Little research has been done on contributory role of virtual teaching in improving reading comprehension of university students.

LITERATURE REVIEW

The theoretical framework for this research study is rooted in the theory of transactional distance as a key variable for eliciting student engagement in the classroom. Transactional distance is defined as “the psychological and communication space that exists between learners and instructors in distance education”. The theory asserts that the quality of teaching, learning, and interactions among participants is not affected at the same level by geographical separation as it is by the structure of the course and the quantity and quality of the interactions that happen in that structure (Moore and Kearsley, 1996).

Distance learning can be either synchronous or asynchronous in delivery (Martin, Parker, and Deale, 2012). In distance learning, synchronous delivery involves live interaction between all participants, which may include a traditional classroom, video or audio teleconferencing, a communal whiteboard, and live interactive chat rooms (Filimban, 2008). Asynchronous delivery involves an interaction wherein students and instructors do not participate at the same time and place, such as through e-mail, videotape, and Internet-based platforms. Both synchronous and asynchronous instructional practices have been used at traditional and online schools and universities.

Harvey, Greer, Basham, and Hu, (2014) conducted a study that examined middle school students in the online learning environment. An area of concern that was noted throughout this study was the area of social interaction or lack of social interaction. The study that was conducted compared the experiences of middle school students in the traditional environment to the online environment. Areas that students liked about working in the online environment were primarily in the flexibility that was provided, learning on their own, staying home for school, and working online.

One application of virtual courses is the employment of this system at universities. A virtual university has been founded to be free of traditional systems’ limitations and characteristics. Traditional universities should inevitably comply with the course of new changes. In the new environment, the role of instructors and trainers will change. They will more play the role of a facilitator and trainer or of educational designers. In process of dealing with virtual courses and the role of teachers Atai and Dashtestani (2013) claim that online courses should be treated differently. In online courses, teachers may not be able to explain instructions, perceive and mentor the learners as typically practiced in face-to-face classrooms. Therefore, it may be argued that initiation and facilitation of discussions, as well as providing feedback require different approaches.

Wallace (2009) explored the utilization of virtual programs primarily with gifted students at younger age levels. Gifted students utilizing virtual technology showed promising outcomes. Additionally, virtual technology provides more access to classes that students may not have access to otherwise. Students found that their educational experience was much more enriched because of the availability of the virtual platform. Students who participated in this study found that they were very well prepared academically for end-of-course tests that were taken following the virtual class. The researcher found that the research on the effectiveness of the virtual platform for learning, particularly with younger students, was very limited and that much more research was needed because the utilization of the virtual platform for education with younger students was rapidly expanding.
Kerr (2005) conducted a research project on online learning communities. She found the development of a learning community within the virtual education setting was very important for success. Regarding the virtual environment, the researcher found that in order for the learning process to be successful, instructors needed to pay attention to the development of a sense of community within the classroom group. The creation of a learning community that will benefit the students in the virtual setting requires a commitment both from the students and the teacher. Learning has to be an active process in which the teacher and students participate in order to achieve success.

The relationship between technology and EFL learning is a significant area to do research studies and because of students' familiarity with technology devices in everyday life and their improved computer literacy, it is demanding to use technology more effectively. As Chirimbu and Tafazoli (2013) believe, for many language learners around the world, new digital environments create a useful way for learning language and also the main medium in which they will actually use their second language in everyday life. Almost all university students are equipped with functionalities and application on their cell phones, so using these applications to facilitate language learning and communicate with each other is so widespread.

Blended learning can also be defined as integrating face-to-face learning and electronic learning or distance learning, using different learning theories, methodologies, and techniques in the same place and supporting the learning with various online technologies during the learning process in the classroom (Discroll, 2002; Rossett, 2002; Singh, 2003). Throne (2003), on the other hand, defines the blended learning as "an education model which can integrate e-learning which has improved in parallel with new and technologic developments with traditional learning which provides the interaction in classroom".

Jahanbakhsh and Chalak (2018) investigated the contributory role of virtual courses via Skype to control embarrassment of Iranian EFL learners’ performance. This study aimed at finding out how presentation in the frame of virtual courses can control embarrassment and shyness of Iranian EFL learners. The practical part concentrated on using Skype for the purpose of presentation in seminar courses. The data collection was based on Revised Cheek and Briggs Shyness Scale (PRSS 14 item) and the target group was selected from three seminar classes during 2016.

Esmaili (2012) conducted a study with 70 participants in Iran and used Kumaravadivelu's framework to use technology in writing classes. The results of his study state that technology is not a beneficial tool per se, and it should be used as a complementary tool for teachers. Nezam Hashemi (2014) stated, in a recent study, that teaching writing in virtual way is not significantly more effective than teaching it in actual conventional classes, and virtual classes turned out to be fruitful if used as an addition to the actual class to boost whatever in the class. Moreover, Khoshsima and Sayadi (2016) conducted research on the effect of virtual language learning method on writing ability of Iranian intermediate EFL learners. They found out that virtual learning environment can have a statistically significant impact on writing capacity of intermediate EFL learners by and large.

There is increasing longing for students who intend to enroll in academic centers that have online specialized courses. Research has consistently shown that undergraduate EFL learners lack involvement in virtual learning environments and settings. Most studies in the field of reading comprehension have only stressed the importance of teaching reading skills in the physical classroom setting. Although extensive research has been conducted in different schools and institutions, few studies have been carried out in the university level in terms of effectiveness of virtual teaching and blended method in enhancing reading comprehension of undergraduate students.

The main objective of this research study was to investigate the contributory role of virtual teaching in improving reading comprehension of Iranian undergraduate EFL students. Moreover, the profound impact of blended learning environment on reading comprehension of undergraduate students will be taken into account. Furthermore, this examination aimed at investigating the significant differences among traditional, virtual, and blended learning environments in terms of English reading comprehension. This study is significant in filling the gap in the literature by determining that synchronous virtual learning environment can have a substantial effect on reading comprehension of Iranian undergraduate EFL learners. Additionally, this research study is going to make a major contribution to comparative studies on traditional, virtual, and blended language learning environments.
In fact, the research questions to be answered in this study look like the following:

1. Does virtual learning environment have a statistically significant effect on reading comprehension of Iranian intermediate undergraduate EFL students?
2. Does blended learning environment have a statistically significant effect on reading comprehension of Iranian intermediate undergraduate EFL students?
3. Are there any significant differences among traditional, virtual and blended groups in terms of reading comprehension competency?

**METHODOLOGY**

**Design**

All the data collected in this research study were objective and statistical. It was a quantitative research study that started with a quasi-experimental design in which specific hypotheses precede the quantification of data with follow-up numerical analyses. The investigation compared student test results before and after an instructional treatment in the pretest and posttest respectively. This quantitative research study was confirmatory, verification-oriented, and outcome-oriented in nature.

**Participants**

From the population of undergraduate translation students majoring in Islamic Azad University, Isfahan Branch, Iran a sample of ninety participants with an intermediate proficiency level was recruited for this research study. They were assigned to one control group and two experimental groups, each made up of thirty students. All participants were aged between 20 and 30 years and they were of both male and female genders. The subjects were selected on the basis of a degree of homogeneity of their English courses and the number of terms attended in the university. All the participants were native speakers of Persian and they were generally studying English as a foreign language.

**Instruments**

To begin with, three particular instruments including a placement test, a pretest, and a posttest were employed for the purpose of assessment and evaluation. Accordingly, the solution placement test was administered in the beginning of the investigation. The pretest was given to participants prior to the treatment while the posttest was responded by students after the treatment.

In order to determine the homogeneity of the sample classes, subjects were asked to take the Solution Placement Test (Edward, 2007) prior to the study. In a nutshell, this test includes 50 multiple-choice items which assessed students’ knowledge of grammar proficiency, vocabulary knowledge, 10 graded reading comprehension questions that evaluated reading comprehension of students, and a writing task which assessed writing ability of students. The whole administration took, approximately, forty minutes and from the entire population, 90 students with an intermediate proficiency level were chosen.

Prior to the study in order to ensure they were homogeneous in reading comprehension, a pretest was administered to find out students’ knowledge of English reading comprehension. To this end, a series of thirty multiple-choice reading comprehension tests in five particular tasks was given to the students.

At the end of the semester, the tasks and questions in the pretest were scrambled and employed as the posttest. The posttest consisted of five English reading comprehension tasks including thirty questions and was administered and given to the control group and experimental groups to determine their progress and improvement in terms of reading comprehension skill. Having considered the methods approached in the three classes, the post test was delivered after the treatment. Furthermore, the reliability of both pretest and posttest was 0.84 calculated by KR-21 formula. In order for the researcher to find out the content validity of the tests, five experienced and knowledgeable teachers were consulted.
Data Collection Procedure

The procedures and approaches adopted in the control group and experimental groups were different. To that end, the control group was delivered an alternative treatment in which the reading comprehension strategies were taught through traditional methods whereas the experimental groups were given two treatments in which the reading comprehension tasks were instructed in a virtual learning environment and blended learning situation. The whole experiment was completed during an entire university semester approximately four months and sixteen sessions. The attrition rate was to the minimal level since students proceeded with and stayed on the program until the end of the semester.

Students in the control group were not exposed to any technological approaches at all rather they were put in a face-to-face classroom in which they exchanged ideas lively in an educational brick-and-mortar situation. Although the instructor in the control group did not make use of innovative methods in teaching reading comprehension tasks, he made students take advantage of applying verbal and non-verbal strategies in negotiating the meaning during the class activities. In fact, reading strategies were taught and instructed traditionally in the control group in which no web-based technologies and internet-based tools were utilized. A pretest was given before the experiment to ensure the homogeneity of learners and a posttest was administered at the end of the term to monitor their progress.

In the first experimental class, reading comprehension was taught in an innovative way using virtual learning environment throughout the experimentation. Students attended the number of sixteen sessions, once a week. Learners were engrossed in a live interactive chat room in which they interacted with each other via internet in a virtual learning environment. The instructor stressed the importance of learning comprehension prompts and utilizing them in appropriate places as well.

In the other experimental group, reading comprehension was taught in an innovative way using virtual learning environment mixed with traditional and face-to-face method of teaching. Students met sixteen times, once a week. Learners in the blended learning environment were involved in a situation in which they interacted with each other via internet in a virtual learning environment and took part in a physical class as well. Students were always encouraged to spend more time at home practicing these useful reading strategies and using them in class as well. The instructor focused on learning comprehension prompts and utilizing them not only via the internet but also in the classroom. A pretest is going to be given to them in the very beginning of the treatment to illuminate the homogeneity of the learners and a posttest will be administered to figure out the progress of learners at the end of the semester.

Date Analysis Procedure

The data for this study were elicited and collected from the solution placement test, pretest, and posttest to be analyzed subsequently. The experiments were carried out over a course of the growing period from the beginning to the end of the term. The scores for the placement test, pretest and posttest were recorded and written for later analysis. Moreover, the data analysis and interpretation were followed after the data elicitation and collection. The experiments were run using custom software for English language articles.

All the data and results gained through pretest and posttest were fed into the computer and then analyzed employing SPSS (Statistical Package for Social Science) software program. The data management and analysis were performed using this program. Technically, all numerical and quantitative data were analyzed with the help of SPSS program. The participants received 1 point for each correct answer in reading comprehension items in the pretest and posttest. One-way ANOVA test was employed to determine the homogeneity of learners in terms of their general English proficiency level and another one-way ANOVA was utilized to elucidate their reading comprehension skill in the beginning of the experimentation. In addition, a paired sample t-test was exploited to figure out the difference in the virtual group before and after the semester. In order to understand whether there were significant differences among the three groups on the posttest a one-way ANOVA test was run.
RESULTS

Homogeneity of Learners Concerning Their English Proficiency Level

Then, in order to ascertain the homogeneity of all groups in terms of their English proficiency level, a one-way between-groups analysis of variance (ANOVA) was run to the scores of participants on placement test. Table 1 shows the descriptive statistics for placement test. As represented, the mean, standard deviation, and standard error of measurement based on 95% confidence interval for the three groups are identified. Table 2 shows the results of Levene’s Test of Equality of Error Variances for the participants. Accordingly, the significance level is F (2, 87) = 0.955 which is depicted in the last column of the following table. Since the significance level (0.955) is much greater than the cut-off point (0.05), it can be concluded that the difference between groups was not statistically significant in the very beginning of the research study. Therefore, it can be concluded that the all participants were homogeneous in terms of their English proficiency level.

Table 1. Descriptive Statistics for the Placement test

|                  | N   | Mean   | Std. Deviation | Std. Error | Lower Bound | Upper Bound | Minimum | Maximum |
|------------------|-----|--------|----------------|------------|-------------|-------------|---------|---------|
| control          | 30  | 57.0000| 3.21634        | .58722     | 55.7990     | 58.2010     | 52.00   | 63.00   |
| virtual          | 30  | 57.0333| 3.25347        | .59400     | 55.8185     | 58.2482     | 52.00   | 63.00   |
| blended          | 30  | 56.8667| 3.21348        | .58670     | 55.6667     | 58.0666     | 52.00   | 63.00   |
| Total            | 90  | 56.9667| 3.19216        | .33648     | 56.2981     | 57.6353     | 52.00   | 63.00   |

Table 2. The Results of Levene’s Test of Equality of Error Variances for the placement test

| Test of Homogeneity of Variances | Levene Statistic | df1 | df2 | Sig.  |
|----------------------------------|------------------|-----|-----|-------|
| placement test                   | .046             | 2   | 87  | .955  |

Homogeneity of Learners in Reading Comprehension

In order to ascertain the homogeneity of all groups according to their English reading ability, a one-way between-groups analysis of variance (ANOVA) was run to the scores of participants on pretest. Table 3 depicts the descriptive statistics for the pretest. As represented, the mean, standard deviation, and standard error of measurement based on 95% confidence interval for the three groups are illustrated. Table 4 shows the results of Levene’s Test of Equality of Error Variances for the participants. The significance level is 0.959 that is depicted in the last column of the following table. Since the significance level (0.959) is much greater than the cut-off point (0.05), it can be concluded that the difference between groups was not statistically significant. Therefore, it can be concluded that the all participants were homogeneous in terms of their reading comprehension potential.
Table 3. Descriptive Statistics for the Pretest

|       | N   | Mean  | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | Minimum | Maximum |
|-------|-----|-------|---------------|------------|---------------------------------|---------|---------|
|       |     |       |               |            |                                 |         |         |
| control | 30  | 20.6667 | 2.05667       | .37549     | 19.8987                        | 21.4346 |         |
| virtual | 30  | 20.7333 | 2.21178       | .40381     | 19.9074                        | 21.5592 |         |
| blended | 30  | 20.9000 | 2.15519       | .39348     | 20.0952                        | 21.7048 |         |
| Total   | 90  | 20.7667 | 2.12026       | .22350     | 20.3226                        | 21.2107 |         |

Table 4. The Results of Levene’s Test of Equality of Error Variances for the pretest

|       | Levene Statistic | df1 | df2 | Sig. |
|-------|------------------|-----|-----|------|
| pretest | .041             | 2   | 87  | .959 |

One-Way ANOVA for the Posttest

In order to illuminate the differences among groups regarding their ability in reading comprehension, a one-way between-groups analysis of variance (ANOVA) was run to the scores of participants on the posttest. The descriptive statistics for the posttest is represented in table 5 below. In this table the mean scores, standard deviation, and standard error of measurement based on 95% confidence interval are represented. Table 6 shows the results of Levene’s Test of Equality of Error Variances for the participants. As such, the significance level in the last column is F (2, 87) = 0.013 that is lower than the cut-off point (0.05), it can be concluded that there were differences among the control group, virtual group, and blended class in terms of their potential in reading comprehension.

Table 5. Descriptive Statistics for the posttest

|       | N   | Mean  | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | Minimum | Maximum |
|-------|-----|-------|---------------|------------|---------------------------------|---------|---------|
|       |     |       |               |            |                                 |         |         |
| control | 30  | 22.2667 | 2.04995       | .37427     | 21.5012                        | 23.0321 |         |
| virtual | 30  | 25.0000 | 3.21634       | .58722     | 23.7990                        | 26.2010 |         |
| blended | 30  | 23.0667 | 2.18037       | .39808     | 22.2525                        | 23.8808 |         |
| Total   | 90  | 23.4444 | 2.76052       | .29098     | 22.8663                        | 24.0226 |         |

Table 6. The Results of Levene’s Test of Equality of Error Variances for the posttest

|       | Levene Statistic | df1 | df2 | Sig. |
|-------|------------------|-----|-----|------|
| posttest | 4.580            | 2   | 87  | .013 |

According to Table 7, Post hoc tests, multiple comparisons using Scheffe tests were carried out in order to locate the exact differences in the performances of the target groups. This test systematically compares each pair of groups, and indicates that there was a significant difference in the means of control, application, and blended groups since the amount of sig. is .000 that is less than cut-off point (0.05).
Table 7. Post Hoc Tests, Multiple Comparisons

| (I) group | (J) group | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | Lower Bound | Upper Bound |
|-----------|-----------|------------------------|------------|------|-------------------------|-------------|-------------|
| control   | virtual   | -2.73333*              | .65492     | .000 | -4.3644                 | -1.1023     |
| blended   | virtual   | - .80000               | .65492     | .477 | -2.4311                 | .8311       |
| virtual   | control   | 2.73333*               | .65492     | .000 | 1.1023                  | 4.3644      |
| blended   | control   | 1.93333*               | .65492     | .016 | .3023                   | 3.5644      |
| blended   | virtual   | 1.93333*               | .65492     | .477 | -.8311                  | 2.4311      |

*. The mean difference is significant at the 0.05 level.

The following graph represents the graphical representation of the means for the posttest. Accordingly, the horizontal axis depicts the control, virtual, and blended groups whereas the vertical axis shows the mean of scores ranging from 22 to 25. As depicted, the differences between the three groups were statistically significant. The mean score for the control group is 22.2667 in the figure. Moreover, the mean score for the virtual group is 25 and the mean score for the blended group is 23.0667 as shown in the following figure.

Figure 3. Mean scores for posttest

Paired Samples t-test for the Virtual group

Based on paired sample t-test for the virtual group, Table 8 shows the descriptive statistics for paired samples t-test. The mean scores, the number of students and standard deviation points are identified in this table. As such, the mean score for the pretest is 15.5667 while the mean score for the posttest is 18.4667 which show that there was not as much progress as the one in the TEFL group. In line with that, the progress in the experimental (TEFL) group was much more that the improvement in the control (Linguistic) cohort due to the fact that the experimental group were exposed to a lot of praise expressions.

Table 8. Descriptive Statistics for Paired Samples t-test for virtual group

| Paired Samples Statistics | Mean | N  | Std. Deviation | Std. Error Mean |
|---------------------------|------|----|----------------|-----------------|
| Pair 1 pretest            | 20.7333 | 30 | 2.21178        | .40381          |
| posttest                  | 25.0000 | 30 | 3.21634        | .58722          |
Paired samples correlations for the virtual group are shown in the next table. The number of students, the correlation rate, and the significance level are illustrated in the following table. As Table 9 depicts, the significance level in the last column is .00 that is less than cut-off point (.05), as a result, the treatment was effective. Moreover, the significance (2-tailed) in table 10 is zero (less than .05) which shows that the treatment was influential.

**Table 9.** Paired Samples Correlation for the virtual group

| Paired Samples Correlations | N  | Correlation | Sig. |
|-----------------------------|----|-------------|------|
| Pair 1 pretest & posttest   | 30 | .960        | .000 |

**Table 10.** The Result of Paired Samples t-test for the virtual group

| Paired Samples Test | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | t     | df | Sig. (2-tailed) |
|---------------------|------|----------------|-----------------|------------------------------------------|-------|----|-----------------|
| Pair 1 pretest - posttest | -4.26667 | 1.25762        | .22961          | -4.73627 -3.79706 -18.582 | -18.582 | 29 | .000            |

**DISCUSSION**

The present research study investigated the instructional efficacy of virtual teaching versus non-virtual teaching in augmenting reading comprehension of Iranian undergraduate EFL students. The main objective of this research study was to examine the profound effect of virtual learning environment on reading comprehension capacity of undergraduate students majoring in translation. In line with Kerr (2005), this study revealed that virtual learning environment can have a positive impact on reading comprehension of students. She found the development of a learning community within the virtual education setting was very important for success. The creation of a learning community that will benefit the students in the virtual setting requires a commitment both from the students and the teacher. Learning has to be an active process in which the teacher and students participate in order to achieve success.

In fact, virtual learning environment can bring together learners who are geographically and temporally separated from each other. Online learning can be helpful for students who are not able to attend classes on a regular basis and who are not able to commute to classes in a specific time. Students who are learning English as a foreign language and are busy doing other activities seek a more flexible way to expose themselves to learning circumstances and situations in one way or another. In agreement with (Filimban, 2008) one of these new technologies is online learning, which is an educational delivery method that brings together participants who are separated from each other through geographical location and time.

Wallace (2009) explored the utilization of virtual programs primarily with gifted students at younger age levels. Gifted students utilizing virtual technology showed promising outcomes. Additionally, virtual technology provides more access to classes that students may not have access to otherwise. Students found that their educational experience was much more enriched because of the availability of the virtual platform. Students who participated in this study found that they were very well prepared academically for end-of-course tests that were taken following the virtual class. The researcher found that the research on the effectiveness of the virtual platform for learning, particularly with younger students, was very limited and that much more research was needed because the utilization of the virtual platform for education with younger students was rapidly expanding. In line with (Wallace, 2009) virtual learning environment can have a substantial effect on the education of young learners in the academic settings.
CONCLUSION

The present study attempted to investigate the contributory role of virtual learning environment in improving reading comprehension of Iranian undergraduate university students majoring in translation. In a sense, this research study proved that virtual learning environment can not only bring together students who are geographically and temporally separated from each other but also lead to better confidence in reading comprehension. Furthermore, integrating virtual learning setting inevitably influences the scores students accomplish in reading comprehension tests.

The results of the t-test revealed that the virtual group achieved better reading comprehension grades as compared to other two groups. What is more, the students in the virtual learning environment cohort took the reading comprehension tasks more confidently and appropriately. In line with this, the mean scores for the control group and blended groups were much lower than the mean score of the virtual cohort. To conclude, utilization of virtual and online learning can flourish the reading comprehension ability of Iranian university students majoring in translation.

Evidently, the results of the present study may have implications for EFL teachers and syllabus designers, and materials developers. Another application to be included is that the lesson planners and school managers can benefit from the role of virtual environment in enhancing English teachers and university instructors to lead the classes more confidently and successfully. In addition, the results of this research study may provide significant help for students who are learning English as a foreign language and seeking ways to improve their reading comprehension potential through distance education and electronic learning.

The present research study was completed in the university level which included students majoring in translational studies and did not encompass TEFL and linguistic students. Furthermore, another limitation of this investigation is that it did not take account school students but university students. The present examination was oriented and manipulated in the Islamic Azad University and was not accounted for in other universities such as the state university, Payam Noor University and etc. This study can be carried out in other educational settings such as high schools, junior high schools, and vocational centers. Moreover, the present study might be replicated in other provinces, cities and ethnics with different English language exposures, language backgrounds, and proficiency levels. Last but not least, it can be conducted in overseas countries with non-native and immigrant students including both males and females and different age groups.

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