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VIRTUAL AND NON-VIRTUAL LITERACY LEARNING ACHIEVEMENT AND LEARNERS' PERSONAL FACTORS

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ABSTRACT

The present study aimed at investigating differences between EFL learners' achievements in virtual and non-virtual courses regarding learners' personal factors namely age, gender and motivation. Samples of 100 pre-intermediate EFL learners from a pool of 120 learners enrolled in language institutes were selected. The learners were divided into four groups of 25(two males and two female groups). One male and one female group participated in virtual class and the other two took part in traditional classes. A questionnaire and an achievement test were utilized to collect data quantitatively. The data was analyzed through two-way ANOVA and descriptive analysis. The results showed that, there was no significant difference between the achievement of the groups regarding their gender and age. On the contrary, motivational types proved to make a difference in the achievement of the learners. More specifically, power-oriented learners outperformed the affiliation-oriented motivational type. The results of this study have several implications for learners, teachers, syllabus designers and researchers. A quasi-experimental design was employed as the research design of the present study.

Keywords: *Virtual Learning, Non-Virtual Learning, Personal Factors, Motivation.*

INTRODUCTION

In the context of technological advances, educational institutions face emerging challenges: the need for meeting demands of the information society; and a new learning population characterized as digital students, for instance. Therefore, contemporary needs require universities that understand the outstanding importance of dynamic, flexible, personalized, and educational models. The challenge is to enable students to become social and intellectual beings, in a free and independent way. For this purpose, going beyond classroom walls is needed, with the development of innovative pedagogical proposals. In this outlook, the development of information and communications technologies (ICTs) has led to innovations in the teaching-learning process. The integration of new technologies in education allows professors to create and recreate learning materials based on a combination of interactive multimedia resources Rev Bras Enferm (2017).

In addition, the integration of digital learning with ICTs reduced significantly the barrier to innovative education. It also helped to overcome time and space as restrictions in traditional learning models, thus moving students from passive reception of knowledge to more active learning approaches.

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In recent years, the need for education has changed because of an increased demand for a highly educated workforce that will be expected to learn continuously. Education has become an un ending process in one's lifetime due to which the means of education are also being transformed in order to meet the expectations and to keep the continuity of education going. The learning which was initially done in a face to face environment is becoming into an environment mediated by computers and digital technologies. In 1886, the first president of the University of Chicago, William Rainer Harper wrote: "the student who has prepared a certain number of lessons in the correspondence school knows more of the subject treated in those lessons, and knows it better than the student who has covered the same ground in the classroom".

A lot of attempts have been done so far in this field by many researchers and motivation effect has been widely accepted by both teachers and researchers as one of the crucial factors that influence the rate of success of second language and foreign language learners (Brown, 2002) and also motivation provides the primary drive to initiate learning the second/foreign language and later the driving force to sustain the long and often boring learning process. “Without sufficient motivation, even individuals with the most remarkable abilities cannot accomplish long-term goals, and neither are appropriate curriculum and good teaching enough on their own to ensure student achievement”. Brookfield (2005), a British adult educator in the United States urged that for triggering the learners 'engines teacher should play as an active guide. Smith and Wilhelm (2002) emphasized learners ought to crave the learning issues and teacher should be there to answer them. Lee (2015) mentioned the involvement of the learners learning non-virtually and observing their acts and sometimes the reacts of the research should follow up the roll of the dice by random events. Demian (2012) elaborated the effect of a student's use of virtual learning. Morrice (2012) urged the use of virtual learning environments and their impact on academic performance.

So as most former studies have focused on one frequent problem which identified in almost all teaching and learning researches in curriculum study and which has led to the elimination of some teaching procedures was the gap between exact roles adopted by teacher and students and the way language was used to promote learning in specific classroom, this was because of the pedagogical process and personal factor differences Flovitz (2007), Herman (2004) and Weiss (2006), and also one of the most frequently asked question in language learning circles is whether language should be taught virtually or non-virtually, in addition the central issues in the psycholinguistics of second language acquisition is whether adults can learn a language fully through the same non virtual learning mechanisms used by the child in learning a first language Demian (2012).

Personal factors such as age and gender may have a crucial role in both choosing and adapting the mode of learning Enferm (2017). Do men and women learn differently or have different preferred ways of learning? Are there male and female preferences in learning styles rooted in evolutionary biology or overwhelming social differences? Why should we ask these questions anyway? We ask these questions because the answer may dramatically alter the ways in which we teach? Faculty members must have content knowledge, pedagogical knowledge, and knowledge of the learner and his/her characteristics to be effective teachers. Most university faculty members have detailed knowledge of subject. However, obtaining knowledge of the

learner and his/her characteristics is a vastly underutilized approach to improve classroom instruction.

To date many researchers have investigated the effects of virtual learning on learners' performance while it seems that learners' personal factors have been neglected in these research works. To address this concern, present study investigates the possible differences in learners' achievement in virtual and non-virtual classes regarding learners' age, gender and motivational types.

Statement of the Problem

Many language learning programs around the world have already adopted or are about to adopt virtual modes of learning as growing numbers of EFL students enroll in universities and colleges, and it seems necessary to know more about students' adaptation to this new situation. According to the psychology of learning in the new era, personal factors may have an important role in both choosing and adapting the mode of learning (Enferm, 2017). Therefore, to have a successful virtual program, it is vital to put the personal factors in focus and investigating the effects of virtual modes of learning on learners' achievement in relation to personal factors can shed more lights on the effectiveness of virtual language learning programs.

Most of the previous studies on virtual learning have focused on four major themes. Some investigate learners' beliefs towards virtual learning that gender had an influence on mental flexibility. Specifically, boys had better function in this respect in comparison to girls. In addition, the virtual students had better function in terms of mental flexibility in comparison with the non-virtual students Aels, India (2014). The virtual educational environment has its own exclusive features in terms of the individual, such as the relationships, communications, interactions, flexibility and so forth, whereas the traditional educational setting does not have these feature (Cullen, Clark & Esson, 2011). In fact, one of the most promising and growing achievements of information technology associated with the internet is with regard to learning/teaching communications; indeed, virtual education is the main foundation for the educational process aimed at people who do not operate in a real setting (TaghiYareh & Siadati, 2007). Many studies have been carried out in relation to virtual education; for example, Jefferson and Arnold (2009) have shown in their studies that a suitable educational approach should have bilateral features between the

Teachers and the student through the use of group-based educational task applying the most sophisticated technology available, such as information technology in the learning environment. (Jefferson & Arnold, 2009). Sorensen, Mathiasen and Dalsgaard (2009) specified the effective factors involved in planning virtual educational courses in research aimed at modeling the virtual education process, particularly in college settings. It was shown in a research (Soltani, Kubani, and Hashemi, 2012) aimed at considering the effectiveness of a computer-assisted plan on working memory and on the students' executive function. Most of these researchers concluded that personal factors may have an important role in both choosing and adapting the mode of learning and the effects of virtual modes of learning on learners' achievement in relation to personal factors are undeniable (Cullen, Clark & Esson, 2011). Another group of researchers believe males typically take longer to learn than females do (Smith and Wlhelm 2002, Lee, 2015).

Little has been done regarding the relationship among personal factors and the modes of virtual and non-virtual learning and the effects of virtual learning has not been well researched in the light of personal factors. The present study attempts to fill this gap by investigating the differences between virtual and non-virtual learners' achievements, regarding their age, gender and different motivational types (achievement-oriented, affiliation-oriented, power/control-oriented).

Investigating the area of virtual learning in relation to learners' personal factors can help learners' awareness in choosing the proper mode of learning. It can also help teachers and language program administrators to consider learners factor in their decisions. Moreover, Policy maker can be benefitted by knowing the effects of virtual learning in relation to learners' personal factors. The present study can also establish a new line of research for the researchers to investigate the effects of technology on learning in relation to psychological and human factors.

- *Significance of the Study*

This research can offer richer results by helping the field more precisely about EFL learners 'acceptance and use of learning technologies by providing more insight into their personal factors such as motivation, age, and gender. The findings can help new learners to find out the suitable path for learning, so as not to waste their valuable time in a wrong direction. Moreover, the outcome of this study can help the teacher trainers to make practical plans for their future teaching programs so as not to be involved in invalid tasks and also try to have a clear guideline to lead the learners properly. In brief the importance of this study is raising teachers, learners, and policy makers' awareness toward human factors such as age, gender and motivation in implementing technology and choosing the modes of learning.

Related Literature

- *Historical Review of Virtual Learning*

The history of virtual and non-virtual learning is reviewed from different aspects. In the first perspective, virtual and non-virtual learning was reviewed in a chronological development. The history of virtual and non-virtual learning, as Beatty (2010) explained, goes back to 1950s when the first computers did not like the modern personal computers today. Main-frames were huge computers that were utilizing in some universities for educational purposes. Beatty listed the problems of this situation such as the size of these big computers, expensive technology and the required knowledge for using them.

- *Empirical Background*

Considering the importance of computer-assisted language learning, some researchers have outlined the technology types and their use (Golonka et al., 2014; Macaro et al., 2012). Macaro et al (2012) reviewed the different technology employed in learning English as a foreign language. In a similar study, Golonka el. (2014) investigated the effectiveness of different technology types for foreign language learning. They improved there is not sufficient evidence to show" that the technology has made a measurable impact upon FL learning or teaching"(p.88). Furthermore, they explicitly claimed" the effect of social networking on language learning and the implications for instruction are as yet unknown"(p.88)

- *Theoretical Background*

In this section, the theoretical framework employed in the present study and its background is explained. Anderson and Archer (2000) proposed a conceptual path mainly applicable for online environments such as computer conferencing. They believed a worthwhile educational experience is embedded within a community that is composed of teachers and students- the key participants in educational process. They believed that learning occurs within the community through the interaction of many elements. In order for these elements to work effectively, there is need to design these elements educationally. The quality of learning and education is influenced by function of these elements.

METHODOLOGY

The present study aimed at exploring Iranian EFL learners' achievements in virtual and non-virtual learning environment and personal factors. This chapter reports the description of the participants, the instrumentation, the design of the study, the procedures of data collections and the process of data analysis.

Participants

The participants of the present study consisted of a sample of 120 EFL learners among which a group of 100 learners were divided into four classes each of which involving 25 students learning English (pre-intermediate level) in virtual and non-virtual modes .50 Students were involved in virtual learning process (25 males and 25 females) and 50 students sat for non-virtual class (25 males and 25 females). The participants were adult pre-intermediate level learners who were studying English (Listening, Reading, Writing and Speaking) in language institutes in Qazvin, Iran and their age ranged from 16 to 35 years.

Instrumentation

- *Preliminary English Test (PET)*

The PET (UCLES, 2004) was used to show the learner's homogeneity and whether the learners' knowledge of English is at the same level or not. It consists of four sections (Listening, Reading, Writing and Speaking).

- *Questionnaire*

A questionnaire was used to assess if the participants are motivated by achievement, power or affiliation. The participants were supposed to choose the statement in each set that best describes their motivational orientation. The questionnaire involved 11 questions, each of which included three choices that learners (In one of the Qazvin English Language Institution) chose one which was followed by an answer key to determine which best describes how the individual was motivated. The selected choices relied on learners' personal motivational types (achievement, power or affiliation) which separately involved as follow:

- ✓ *Power*

The items indicating the power-oriented motivation type are: work alone, getting involved with group project, give orders than take them, eager to be my own boss, be in charge of events, concerned about my reputation or position, my ideas to be used, enjoy influencing the direction of things, verbally fluent, ways to change people

✓ *Achievement*

The items indicating the achievement-oriented motivation type are: restless and innovative, need feedback, after starting a task, I am uncomfortable until it is finished, work best, accept responsibility eagerly, high performance, desire to out-perform others, get completely involved in a project, desire unique accomplishments, think about my goals and how to attain them.

✓ *Affiliation*

The items indicating the affiliation-oriented motivation type are: uncomfortable when forced to work alone, go out of my way to make friends with new people, getting involved with group project, sensitive to others, especially when they are angry, get personally involve with my superiors, include others in what I am doing, am concerned about being liked and accepted, enjoy and seek warm, friendly relationship. Don't like being left out of things, think about consoling and helping others, think about my feelings and the feelings of others

- *Achievement Test*

An achievement test was developed by the researcher based on the material taught during the course according to the standard format. This test consisted of 60 item covering vocabulary, grammar, reading and writing. Also, speaking and listening were tested orally which were based on their level and course. Some questions were adapted from Intermediate English Grammar in Use. The validity of test was checked by two experts in the field. The reliability of the test was statistically obtained through test retest procedure and the correlation coefficient of the two sets of scores was 0.86 indicating an acceptable reliability.

Design of the Study

A quasi-experimental design was employed as the research design of the present study, as there were two conditions of learning and three personal factors, so the researcher tried to find the effect of modes of leanings regarding the personal factors. Having employed this approach, a more accurate understanding of the research problem could be provided (Creswell, 2012) since data could be collected quantitatively to answer the research questions. The quantitative data was collected to get a deeper insight into the nature of personal factors in learning a language.

Procedure

In the first stage 120 male and female participants enrolled in EFL courses were selected and asked to take the PET exam. This was to ensure their homogeneity despite the fact that they were all studying the same course. In order to prevent any anxiety, the goal of the project was explained to the students. Then, 100 homogeneous learners were selected and they were put in 4 groups including 25 males and 25 females in each class. 2 groups of males and females got virtual kind of learning and 2 others practiced the non-virtual one, so there were two conditions of learning one group learned traditionally (in the classroom) and one virtually (learners learned online). The non-virtual group activities were based on the present of learners and teacher, and they performed the tasks in the classroom, learners constantly exchanged their ideas, helped each other, interacted to their teacher and solved the problems in the classroom while non-virtual group of learners received the course online, studied the materials out of the classroom, and just saw their teacher two times (midterm and final exam). Here they had one opportunity, when they referred to take the midterm exam they could see the teacher to asked their questions the removed the former problems.

Data were collected by means of using a questionnaire, and a post-test. The first day of class students were asked to fill out the questionnaire prior to assignment to conditions. The students assigned to traditional class were sent to a regular classroom while the virtual students were introduced to an orientation session to be taught how to work virtually. Time table of each section was given as identical instructions by the instructor as to the scope, content and expectations for their performance in the class. Subsequently, students in the virtual class were given instructions by the lab assistant on the requisite technology necessary to accomplish the virtual format of instruction. This technology included instruction in accessing e-mail, World Wide Web and on line connections. To assure student competency, the virtual class met for the eighth week to be tested the previous week's instruction, thereby maximizing their ability to carry out the class in the virtual setting.

The non-virtual class met every Monday during the following 16 weeks as scheduled from 10 am to 1 pm. All skills learned together, first the whole class read the text quietly, then two or three learners read the text aloud, the other learners checked their pronunciations and teacher read the text slowly and asked the learners to underline the unknown words, grammar, and expressions and also advised the learners improve their pronunciations. Afterward, learners utilized a sample similar pattern as they read, to write a short paragraph as the text frame, finally the volunteer learners read what they had written, then the learners involved in an oral challenge to talk around the title of the text they read, write and listen during the session. They (learners) might change the use of skills each session which were based on the previous order of teacher. The virtual class met only twice after the first two weeks, during the 8th and 16th week to take the midterm and final examination. The non-virtual classes solve common weekly assignments submitting them every week.

Data Analysis Procedures

The collected were data was analyzed using SPSS software. Fist, descriptive statistics was run. The normality of data was also investigated using graphs and tables. Finally, to check the assumptions of the study a two-way ANOVA was run. Furthermore, to check the possible differences between the groups, a follow up pairwise comparison test was applied. Finally, data from different sources was cross verified to get deeper insight into the possible effect of age, gender and different motivational types (achievement-oriented, affiliation-oriented, and power/control-oriented) in virtual and non-virtual environments. Having explained the methodology employed in this study, next chapter presents the findings for the research questions.

Checking the Assumptions

Exploring the possible effects of age, gender and different motivational types (achievement-oriented, affiliation-oriented, power/control-oriented) on learners' achievement in virtual and non-virtual classes the normality of the obtained results of the pretests and posttest were statistically checked. This section reports the statistics regarding the homogeneity of the data. To this end first the normality of the post-test is checked to assure using appropriate test for data analysis. Table 1 illustrates the descriptive statistics for the post-test. The Skewness and Kurtosis values (.027 and -.0.713 respectively) point to the possibility of normal distribution of the data.

Table 1: Descriptive Statistics for Achievement Scores

			Statistic	Std. Error
achievement	Mean		13.3550	.31513
	95% Confidence Interval for Mean	Lower Bound	12.7297	
		Upper Bound	13.9803	
	5% Trimmed Mean		13.3611	
	Median		13.0000	
	Variance		9.931	
	Std. Deviation		3.15131	
	Minimum		7.00	
	Maximum		20.00	
	Range		13.00	
	Interquartile Range		5.00	
	Skewness		-.027	.241
	Kurtosis		-.713	.478

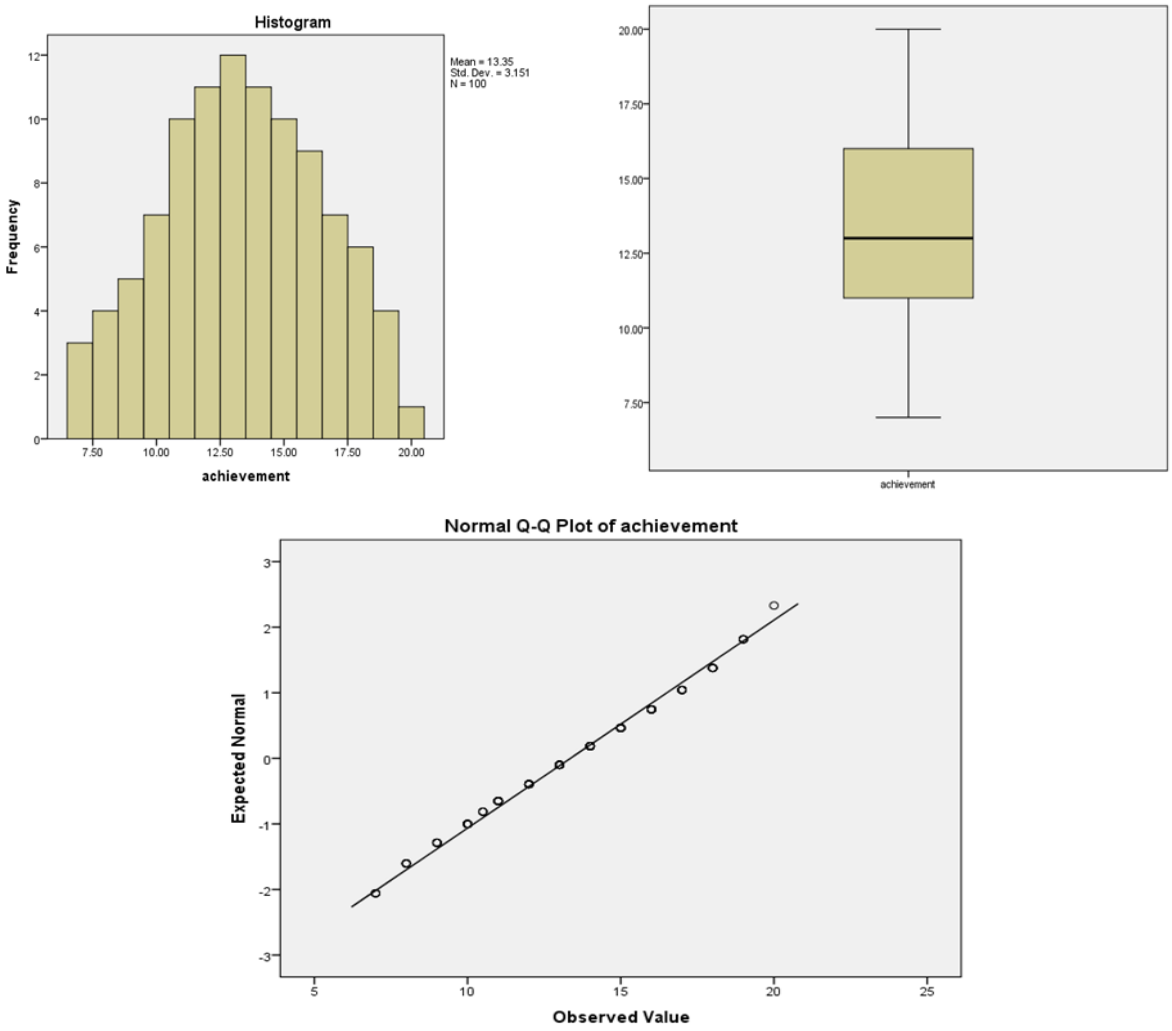

Figure 1: Histogram, box plot and Q-Q plot for achievement scores

The histogram and box plot (figure 1) and also Q-Q plot display normal distribution of the data. However, this needs to be ascertained through an inferential test. Therefore, a Kolmogorov-Smirnov and Shapiro-Wilk test of normality was run (table 2).

Table 2:Kolmogorov-Smirnov Test of Normality for Achievement

Tests of Normality of scores						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
achievement	.069	100	.200*	.979	100	.114

Kolmogorov-Smirnov and Shapiro-Wilk test assume that the data is normally distributed. As table 2 shows the sig. level for both tests (.0.200 and 0.114 respectively) is less than 0.05 that means the hypothesis is approved. Therefore, we can be concluded that the data is normally distributed and a parametric test, ANOVA test, was used to compare the groups.
The second assumption for running a safe ANOVA test is the homogeneity of the variances. Although the number of the participants in each group is the same and the violation of the equality of the variances cannot threaten using ANOVA, this assumption was checked. The following table (3) presents the results.

Table 3: Leven's test of equality of Variances

Leven's test of Equality Variances			
Dependent variable: achievement			
F	Df1	Df2	Sig.
3.626	1	1	.072

As the table shows, the null hypothesis of the Leven's test are rejected that is the variances of the groups are equal. Therefore, none of the assumptions of the ANOVA is rejected.

Verifying the Research Hypotheses

The following research questions were posed for the present study and this section presents the results of the data analysis to answer these questions.

1. Are there any significant differences in the achievement scores of learners in virtual and non-virtual contexts across age groups?
2. Are there any significant differences between the achievement of different motivational types (achievement-oriented, affiliation-oriented, power/control-oriented) in virtual and non-virtual classes?
3. Do male and female learners differ significantly in virtual and non-virtual courses in terms of their achievement?

- ***Investigating the First Research Question***

The first research question sought to investigate the differences between learners' achievement in virtual and non-virtual environments across age groups. To this end, a two-way ANOVA procedure was used. The descriptive statistics are summarized in the following table.

Table 4: Descriptive statistics for the ANOVA

Dependent Variable: achievement				
age of participants	virtual and non-virtual	Mean	Std. Deviation	N
above22	virtual	12.3214	3.78891	21
	non-virtual	13.0000	3.46410	29
	Total	12.5870	3.64128	50
below22	virtual	13.9167	3.25509	18
	non-virtual	14.0556	2.11044	32
	Total	14.0093	2.51878	50
Total	virtual	12.9457	3.63811	39
	non-virtual	13.7037	2.65379	61
	Total	13.3550	3.15131	100

A glance at Table 4 shows non virtual group below 22 is performed better than non-virtual group above 22. It also appears that non-virtual group below 22 outperformed virtual groups above 22. Additionally, standard deviation indicates that virtual and non-virtual above 22 totally is 3.64 and virtual and non-virtual below 22 is 3.63 of the total standard deviation, respectively. Generally, it can be concluded that non-virtual groups did better than virtual groups. The following figures show the graphic representation of the data.

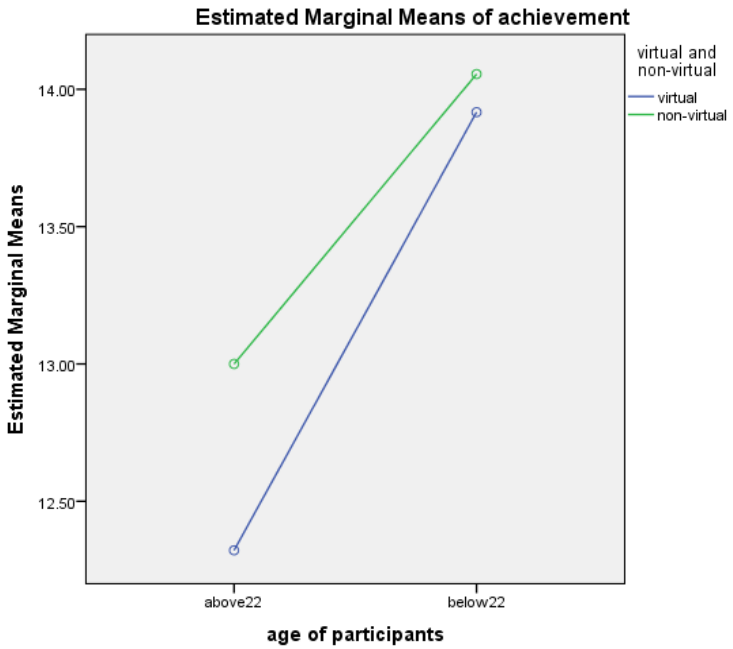

Figure 2. Learner's means in virtual and non-virtual groups regarding age factor

Figure 2 indicates that the non-virtual group of learners first below 22 then above 22 is better than both group of virtual learner above 22 and below 22.
However, in order to see whether or not the observed differences are statistically significant, the two-way ANOVA procedure was used, yielding the following results:

Tests Between-Subjects Effects

Table 5: Two–way ANOVA on the achievement data

Dependent Variable: achievement									
Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Intercept	Hypothesis	16266.676	1	16266.676	4250.280	.010	1.000	4250.280	1.000
	Error	3.827	1	3.827[a]					
Age	Hypothesis	40.244	1	40.244	24.125	.128	.960	24.125	.300
	Error	1.668	1	1.668[b]					
Type	Hypothesis	3.827	1	3.827	2.294	.371	.696	2.294	.098
	Error	1.668	1	1.668[b]					
Age * Type	Hypothesis	1.668	1	1.668	.173	.679	.002	.173	.070
	Error	927.621	96	9.663[c]					

As it can be seen in Table 5, since the F-value is not statically significant (F (1) =24.125, p=.128), there is no significant differences in the achievement of different age group. It is also clear from the table that the p-value for the type of class (virtual and non-virtual) is higher than 0.05 indicating that there are no significant differences in virtual and non-virtual classes (F (1) =2.294, p=.371). Moreover, the interaction of age and type is not statistically significant either (F (1) =.137, P=.679). Additionally, partial eta squared indices indicate that age and class type explain about 96% and 69% of the total variance, respectively.

- *Investigating the Second Research Question*

The aim of the second question was to investigate the differences in achievement of different motivational types (achievement-oriented, affiliation-oriented, and power/control-oriented) in virtual and non-virtual classes. To this end, another two-way ANOVA was used. Table 2 contains the descriptive statistics*:*

Table 6: Descriptive Statistics for Motivational Types

motivation type	virtual and non-virtual	Mean	Std. Deviation
power	virtual	13.6250	1.92261
	non-virtual	14.6364	2.24823
	Total	14.2105	2.12339
achievement	virtual	13.4107	3.87311
	non-virtual	13.5294	2.95661
	Total	13.4758	3.37229
affiliation	virtual	11.1000	3.66515
	non-virtual	13.2222	1.64148
	Total	12.1053	3.01652
Total	virtual	12.9457	3.63811
	non-virtual	13.7037	2.65379
	Total	13.3550	3.15131

It can be seen from Table 6 that there are differences between virtual and non-virtual learning. It indicates that in all three motivational types the mean score of non-virtual group is higher than the virtual group (M=14.63, M=13.52, and M=13.22 respectively). The graphic representation of the results (Graph 2) shows the differences among the groups more conspicuously.

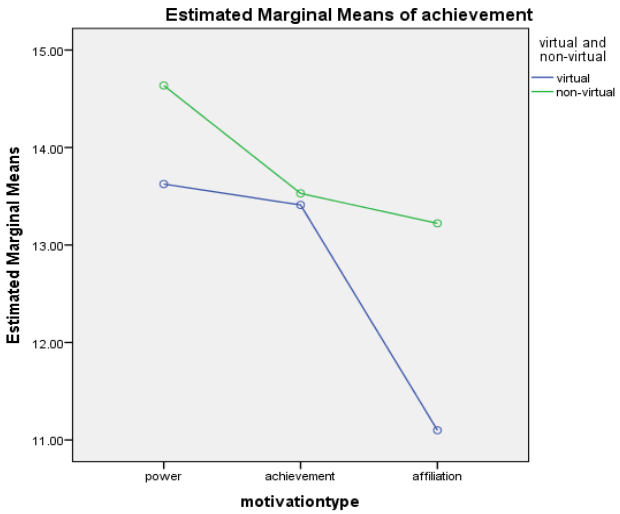

Figure 3 Learner's performance virtually and non –virtually regarding motivation

The graphic representation of the results (figure 3) shows the differences among the groups more conspicuously. The graphic representation of the results indicates that learners with power-oriented motivation in both non-virtual group and virtual group performed better than other motivation types. Moreover, non-virtual affiliation is higher than virtual in both achievement and power. The lowest performance belongs to affiliation- oriented learners in virtual group. The two-way ANOVA was utilized to see the extent to which the observed differences between the means were statistically significant. The results are presented in Table 7.

Table 7: Two-way ANOVA on the Learners' Motivation

Tests of Between-Subjects Effects									
Dependent Variable: achievement									
Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta squared	Noncent. Parameter	Observed Power[e]
Intercept	Hypothesis	12849.881	1	12849.881	597.883	.026	.998	597.883	.945
	Error	21.492	1	21.492[a]					
Motivation type	Hypothesis	38.953	2	19.476	3.563	.028	.719	5.127	.164
	Error	15.196	2	7.598[b]					
Type	Hypothesis	21.492	1	21.492	2.759	.211	.520	2.759	.198
	Error	19.811	2.543	7.790[c]					
Motivation type * Type	Hypothesis	15.196	2	7.598	.783	.460	.016	1.566	.180
	Error	912.373	94	9.706[d]					

As it can be seen in Table 7, the F-value is statically significant 125, p=.028 for the motivation type while it is not significant for the mode of learning P=0.211 and the interaction effect of mode of learning and motivation type P=0.460) additionally, partial eta squared indices indicate that motivation type explains about 71% of the variances. Therefore, it can be concluded that motivation type can make a difference in achievement of learners. To find the exact differences, a pairwise comparison follow up test was run. The results are presented in the following tables

Table 8: Pairwise Comparison for Motivational Types

Dependent Variable: achievement						
(I) motivation type	(J) motivation type	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
power	achievement	.661	.826	.426	-.979	2.300
	affiliation	1.970	1.018	.05	-.052	3.991
achievement	power	-.661	.826	.426	-2.300	.979
	affiliation	1.309	.819	.113	-.317	2.935

It can be seen from Table 8 that there is a significant difference between power-oriented and affiliation-oriented learners' achievement (P= 0.05) while the differences between Power and achievement- oriented learners, achievement and power-oriented and achievement and affiliation- oriented learners are not significant.

- *Investigating the Third Research Questions*

The third research question investigates if there is a significant difference between male and female learners' achievement virtual and non-virtual classes.

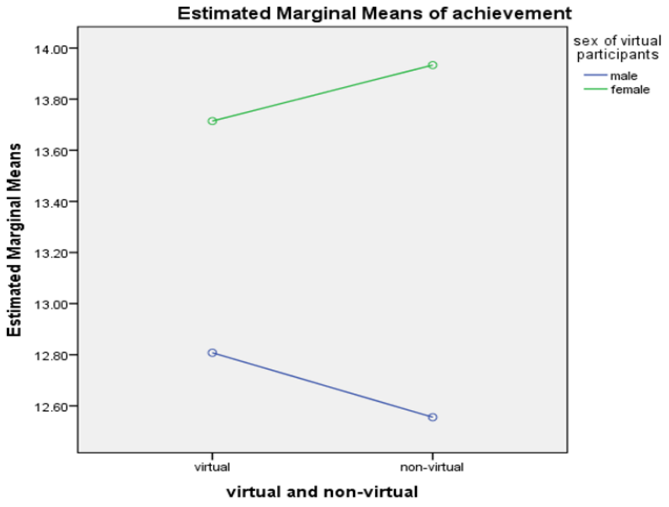

Figure 4: Mean scores of achievements for male and female in virtual and non-virtual classes

The Figure 4 presents the differences between male and female learners in virtual and non-virtual classes. As the graph shows female learners outperformed male learners in both virtual

and non-virtual classes. However, to see if these differences are statistically significant another ANOVA test was run. The results are presented in the following table. The two-way ANOVA was utilized to see the extent to which the observed differences between the means were statistically significant. The results are presented in Table 9

Table 9: Two-way ANOVA on the male and female Learners' achievement

Dependent Variable: achievement						
Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	Hypothesis	9310.334	1	9310.334	2566604.993	.000
	Error	.004	1	.004[a]		
Type	Hypothesis	17.289	1	17.289	23.505	.129
	Error	.736	1	.736[b]		
Gender	Hypothesis	.004	1	.004	.005	.955
	Error	.736	1	.736[b]		
Gender * Type	Hypothesis	.736	1	.736	.074	.786
	Error	949.758	96	9.893[c]		

Table 9 shows that there is no significant difference between virtual and non-virtual modes of learning regarding gender (f (1) =23.505, p= .129). Moreover, gender could not make a significant difference in learners' achievement in both groups (F (1) =.005, p= .955). However, it is clear that the interaction effect of gender virtual and types of learning (virtual and non-virtual) isn't statistically significant (F (1) =.047, p=.786).

CONCLUSION

Research has shown that technology can perform a positive role to promote learning in different disciplines (Kopcha & Alger, 2014; Ersoy and Akbulut, 2014). They have explored the effectiveness of technology and concluded that technology can support learning and influence achievement scores positively and different technology types can support effective language learning (Golonka, 2014) while the role of personal factors in this regard has remained under researched. To fill this gap, the present study attempt to explore the possible effect of age, gender, and motivational types on the achievement of learners in virtual and non-virtual environment. The results revealed that personal age and gender did not have a statistically significant effect on learners' achievements in virtual and non-virtual environment while motivational type could make a difference in the achievement of the learners in virtual and non-virtual classes. Power-oriented and affiliation-oriented learners were significantly different in their achievement among the three motivational types namely power, achievement and affiliation. This could be seen in the light of the differences in personality of these motivational types.

People who are affiliation motivated are interested in good interpersonal relationship with others and they need to be accepted by others. This motivational type enjoys working in groups and work with people who provide high personal interactions. They can perform best in cooperative environments where they can strive for friendship and mutual understanding while the power motivated people have a desire to have an impact and to control others. They

enjoy being in charge and they are more concerned with prestige than with effective performance. The result of this study revealed that only power and affiliation types were significantly different. This significant difference can be explained with the lack of opportunity for making friendship and having interpersonal relationship with other peers in virtual groups. On the other hand, those having a power motivational type like to be in charge and they prefer the prestige rather than effective performance, therefore, this virtual environment is an ideal condition for power-oriented people to take control of their own learning. Therefore, they performed under this condition.

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