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آموزش رو در رو در مقابل آموزش الکترونیکی: تحقیق درباره عملکرد دانشجویان کارشناسی ارشد آموزش رو در رو و آموزش الکترونیکی رشته آموزش زبان انگلیسی در دانشگاه پیام نور

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Face to Face versus E-learning: An Investigation into the Performance of TEFL Master's Students of Payame Noor University

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Abstract
This study aimed at investigating the performance of face-to-face and e-learning Master's students of Teaching English as a Foreign Language (TEFL) at Payame Noor University, the biggest distance education institute and public university in Iran and the Middle East. To achieve this, the performance of 1254 MA (678 face-to-face and 576 e-learning) students in the final exams of five courses were compared. In another comparison, the final scores of male (n=158) and female (n=418) e-learning students were compared to find any significant differences in their performances. The results revealed no significant difference between the achievements of male and female students. Furthermore, the face-to-face and electronic students performed similarly in three courses and differed significantly in two other ones. That is, the former group outperformed the latter in two courses. The reasons might be due to some factors such as differences in the two modes of learning, the quality of hardware and software, and the number of students in e-learning courses which highlight the necessity of paying more attention to this mode of learning. Some theoretical and pedagogical implications emerged from the study.

Keywords
E-learning; Face-to-face Learning; Performance.

چکیده
هدف از این مطالعه مقایسه عملکرد دانشجویان کارشناسی ارشد رشته آموزش زبان انگلیسی در سیستم آموزش الکترونیکی و آموزش رو در رو در دانشگاه پیام نور، بزرگ‌ترین دانشگاه دولتی ایران و بزرگ‌ترین موسسه آموزش از راه دور خاورمیانه بود. به این منظور، عملکرد ۱۲۵۴ دانشجوی کارشناسی ارشد شامل ۶۷۸ دانشجوی آموزش رو در رو و ۵۷۶ دانشجوی الکترونیکی در ۵ درس مقایسه شد. همچنین عملکرد ۱۵۸ دانشجوی مرد با ۴۱۸ دانشجوی زن در آموزش الکترونیکی برای پیدا کردن تفاوت قابل‌توجه در عملکرد آن‌ها مقایسه شد. نتایج نشان داد که دانشجویان آموزش الکترونیکی زن و مرد در امتحانات پایان ترم تفاوت قابل‌ملاحظه‌ای ندارند. همچنین دو گروه دانشجویان رو در رو و آموزش الکترونیکی در سه درس از پنج درس مقایسه شده تفاوت قابل‌ملاحظه‌ای نداشتند. اما در دو درس دانشجویان آموزش رو در رو به طور قابل‌ملاحظه‌ای از دانشجویان الکترونیکی پیشی گرفتند. دلایل اختلاف بین دو گروه دانشجویان می‌تواند به عواملی مثل اختلاف در دو نحوه آموزش، کیفیت نرم‌افزار و سخت‌افزار در آموزش الکترونیکی، و تعداد زیاد دانشجویان در کلاس‌های الکترونیکی باشند که لزوم توجه هر چه بیشتر مسئولان به این آموزش در دانشگاه پیام نور را می‌طلبد. بر اساس نتایج کاربردهای نظری و عملی ارائه شد.

واژه‌های کلیدی
آموزش الکترونیکی، آموزش رو در رو، عملکرد.

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Introduction

Nowadays, Information and Communication Technologies (ICT) are widely used for educational purposes and the developments in network technologies have caused significant evolvements in the applications of e-learning as well (Kahiigi, Ekenberg, Hansson, Tusubira, & Danielson, 2008). However, the concept of e-learning has been subject to change for years; consequently, coming up with a single definition for it is quite difficult (Sangra, Vlachopoulos, & Cabrera, 2012). Learning which is facilitated by using computer-related technologies is probably one of the most straightforward definitions of e-learning with computers and the relevant services like the Internet access as its most prominent technologies. Nevertheless, e-learning also includes hand-held data storage and transmittal devices such as cell phones that making it of particular interest to distance and autonomous self-study (Fletcher, Nicholas & Davis, 2011).

For a good number of years, colleges and universities in developed countries have been seeking the new ways of using information technology in order to promote the teaching and learning process and also to extend access to new students. Along with them, many universities in developing countries such as Iran are investing in developing virtual universities or virtual departments in the conventional campus (Omidinia, Masrom, & Selamat, 2011). Integrating the new ICT systems into the learning environments, and particularly taking advantage of electronic systems such as computers, the Internet, electronic journals, and virtual newsletters in learning will not only eliminate the necessity of commuting between home and university, but also lead to saving a dramatic amount of time and cost for both students and teachers to allocate to education (Salehi, Gholtash, & Azadmehr, 2011 as cited in Aman zadeh & Al Noman 2015). Therefore, it is not surprising that e-learning is given such a warm welcome all over the world.

With the appearance of e-learning in Iran, Payame Noor University (PNU), known as the biggest distance university in Iran and the Middle East, has implemented this new mode of learning for Master's degrees in some disciplines. Taking advantage of the potentials of this mode of learning, the university is hoping to realize the slogan of *Education for everyone, everywhere, and every time*.

Teaching English as a Foreign Language (TEFL) is one of the academic disciplines which many volunteers of MA degrees apply every year and take the required courses in electronic as well as traditional way. Master's degree in TEFL was established at PNU more than nine years ago and the electronic mode was introduced to the program around five years later. However, there has been no particular study on the achievements of students learning in the two environments to reveal any possible differences in their performances. Considering the advantages and contributions of electronic learning to distance education, it seems that the university is pursuing the expansion of e-learning programs as a suitable substitute for the present face-to-face courses. Therefore, in order to investigate the successfulness of the running e-learning program to find out whether it is able to replace the traditional one in the years to come, the present study set up a comparison between the traditional and e-learning students' performances in the end of the semester exams.

Furthermore, the possible differences among males and females in electronic environment is inconclusive and calls for more research in different contexts. Therefore, the sub-theme of this study was to take the participants' gender into consideration and to compare the performances of male and female students in virtual learning environment to shed some light on the possible differences and to pave the way for further studies in this domain. To achieve these, the following research questions were posed:

1. Is there any significant difference between the achievements of face-to-face and e-learning MA students of TEFL at PNU?
2. Is there any significant difference between the achievements of the e-learning male and female MA students of TEFL at PNU?

According to the literature, there is no clear evidence in favour of any of the two modes

of learning. Besides, there is no conclusive evidence to show the possible differences between male and female students' perfor-performances in electronic learning. Therefore, the present study suggested the following hypotheses:

1. There is no significant difference between the achievements of face-to-face and e-learning MA students of TEFL at PNU.
2. There is no significant difference between the achievements of the e-learning male and female MA students of TEFL at PNU.

Review of Literature

The field of Teaching English as a Foreign Language (TEFL) is closely related to e-learning as teachers and students have always been interested in using modern technology in planning, preparing and delivering lessons to students. Furthermore, e-learning is considered as an essential investment by EFL instructors who are seeking to integrate it into their everyday teaching practices (Deerajviset & Harbon, 2014; Khampusaen, 2012). However, the remarkable changes happening in the process of teaching and learning at universities worldwide in the era of information and communication technology (ICT) calls for more attention. Nowadays, e-learning proposes new and alternative methods of teaching and learning and also helps students acquire new skills; therefore, a large number of universities around the globe offer e-learning courses as an alternative to substitute traditional classes and as a means of delivering course content interactively.

In spite of the potential advantages such as enabling students to take courses not offered locally, eliminating the limitations of face to face classes, improving the quality of education, and even cutting down the costs of learning (Chingos & Schwerdt, 2014), e-learning remains a matter of debate due to significant differences in the contexts where it is applied.

In Iranian context, a recent study by Mosalanejad, Shahsavari, Sobhanian, and Dastpak (2012) investigated the impact of virtual versus traditional learning in achieving competency-based skills. The results highlighted the advantages of implementing virtual program in enhancing students' learning process. As a result, they claimed that both traditional and virtual methods can be applied by teachers and integrating the two modes of teaching might substantially facilitate the transfer of knowledge to students and help them in acquiring more advanced skills. Conversely, in another attempt to compare the two mentioned modes of learning, Friday, Friday-Stroud, Green, and Hill (2008) measured the students' final scores in two management courses and found no statistically significant difference between the online and traditional learning. In 2010, Dell, Low, and Walker reported the results of a study in which they compared the students' achievement using the results of their performance on assignments of a graduate course in human development and learning. Same instructors taught two face-to-face and one online group. The results suggested no significant difference between the groups. They attributed the results to the same method of instruction used for all three groups and concluded that the method of instruction is more important than the delivery mode. Similarly, Jahng, Krug, and Zang (2007) conducted a meta-analysis study in which the existing research published for 10 years (1995-2004) were compared for students' achievement in online vs. Face-to-face education in post-secondary level. Their main purpose was to investigate whether the development of technology had influenced the students' achievement in the online group. The overall comparison showed no significant difference between the two settings.

According to a research conducted by the U.S. Department of Education, more than 1,000 studies concerning online and traditional courses were reviewed and the findings highlighted that, on average, students performed better in an online environment than the traditional one (Feintuch, 2010). However, it might be worth mentioning that on the same year, Jaggars and Bailey (2010) in a response to the Department of Education questioned the effectiveness of fully online courses and asserted that the studies did not include underprepared students, so:

Their results may not generalize to traditionally underserved populations. Therefore, while advocates argue that online

learning is a promising means to increase access to college and to improve student pro-progression through higher education programs, the Department of Education report does not present evidence that fully online delivery produces superior learning outcomes for typical college courses, particularly among low-income and academically underprepared students. (p.3).

However, there were other studies supporting the superiority of online courses over the traditional ones. A case in point is a study by Zhang, Zhao, Zhou, and Nunamaker (2004). They conducted a comparison between 52 e-learning and 51 traditional students. The effectiveness of learning was measured by test grades and questionnaires. The results revealed that e-learning students obtained significantly higher grades than the traditional ones. Contrary to the results of Zang et al.'s study, the results of McDonald, Dorn, and McDonald (2004) who compared the final grades of 63 online and 134 traditional students indicated that students studying in traditional mode outperformed the online students. Therefore, the literature on the differences between the achievements of e-learning and traditional students is not conclusive and it seems that the context of implementing e-learning programs can influence the final results to a large extent.

Apart from the differences in traditional and virtual learning and in parallel with increasing number of online female students, gender-based differences in e-learning environment have been recognized as an important subject of research in recent years. Generally speaking, a group of studies state that male and female students are different in a virtual environment in terms of performance, motivation, perception, study habits, and communication behaviours. In contrast, other studies consider gender as an insignificant factor in students' performance (Yukselturk & Bulut, 2009).

In line with those who believe in differences between male and females, Price (2006) asserted that female students are confident independent learners and perform better than their male counterparts in a virtual environment. Price further commented that females have different interaction styles compared with men; therefore, they might be more successful in e-learning environment. Likewise, Chyung (2007) found that the exam scores of younger male and female students were significantly different in favour of females. In addition, Gunn, McSporran, Macleod, and French (2003) reported the results of their study indicating that gender differences existed in the styles of participation and contribution in computer mediated communication of their subjects, and on the whole, women posted and read more messages than men on the course bulletin board provided by the virtual environment.

Based on the literature and the inconclusive results of previous researches on the differences between students' achievements in the two modes, a study was conducted on Payame Noor University students to answer the first research question. Besides, due to the same inconclusiveness concerning the performance of male and female students in e-learning setting, the performances of the two groups were compared to answer the second research question.

Methodology

Participants

The population of the study came from the face-to-face and e-learning MA students of Teaching English as a Foreign Language (TEFL) who was studying at different e-learning and non e-learning centres of Payame Noor University (PNU) nationwide. For the first part of the study, the final scores of 1254 MA students including 678 face-to-face and 576 e-learning were chosen to be compared. Out of the selected e-learning students, 418were female and the rest 158 were male students who were compared for the second part of the study to see if there is any significant difference in their final achievements. It is worth mentioning that the whole sample was chosen from among all MA students of TEFL around the country without taking any particular method of sampling.

Instruments

As the current study intended to make a comparison between face-to-face and e-learning as well as male and female e-

learning students' achievements in the final exams, the participants' scores obtained at the end of the semesters in five different courses, namely, *Issues in Linguistics*, *Foreign Lan-Language Testing*, *Discourse Analysis*, *English for Specific Purposes*, and *Principles and Methods of Teaching Language Skills* were used as the instrument. It is worth mentioning that although the researchers had access to all the final scores of the students, other courses had to be eliminated from the study for different reasons. For example, *Research Methods* and *Practical Teaching* are courses with a practical module and are offered only in face to face classes. There are other courses such as *Translation of Islamic Texts* that are tested only by essay questions and the subjective nature of marking essay questions by different instructors could have influenced the students' scores in different centres. Besides, some virtual courses had not been offered in the same semesters when face to face courses were available. Therefore, after reviewing all the scores of all the semesters, only the scores of five courses were qualified to be used in the study.

Procedure

The data collection was carried out in February, 2015, at the end of the first educational semester. According to the university's regulations, every final exam in any course is identically taken around the country at the same time regardless of the learning mode (face-to-face or virtual); hence, the questions as well as the exam time are totally the same for each course. Moreover, the multiple-choice tests are always marked using machines without any teacher's involvement, and the whole data is stored in the university's central database set up specifically for the students' exams. Thus, in order to acquire more reliable results, to have an objective judgment on the achievements, and considering other factors such as the availability of scores for both modes, 5compulsory courses from among the available ones, which were tested only in multiple-choice format, were chosen to be the basis of the comparison.

The first step in data collection was approaching the university authorities to get permission to have access to the students' scores. After obtaining the long lists of scores from the university, there had to be some elimination due to the type of exams. The final exam for most courses at PNU is in multiple-choice format. However, as mentioned previously, there are some essay exams as well as a few courses which are tested by a combined form of essay and multiple-choice, so they were excluded from the study.

Data were received in separate sheets based on each course as well as the mode of learning. Therefore, 10 separate file sheets were taken for five different educational courses and two existing modes of learning. In addition to the students' marks, the authorities provided the researchers with bio-data information about the students in separate columns. Hence, the comparison between the achievements of the e-learning male and female students in the selected courses was carried out utilizing those columns.

In order to compare the scores to answer the first research question, the normality requirements of both face-to-face and e-learning groups were measured separately for each course in advance to decide which parametric or non-parametric test needs to be utilized. Eventually, since the significance values for Kolmogorov-Smirnov test per course were all smaller than 0.05, a Mann-Whitney U test at 0.05 levels of significance was conducted in each phase of the analyses. As an example, the result of checking normality requirement for one of the courses is displayed in Table 1.

Table 1. Test of Normality for *Issues in Linguistics*

	Students	Kolmogorov-Smirnov[a]		
		Statistic	df	Sig.
Scores	f-to-f	.210	366	.000
	E-learning	.189	243	.000

a. Lilliefors Significance Correction

Results

Prior to going through the results, it has to be mentioned that since not every single student took the 5 selected courses altogether in their credit hours, each course's scores were inevitably analyzed separately without comparing the results among the other

courses. Taking this into consideration, the findings of the study are illustrated below.

The first course was *Issues in Linguistics* which included 366 face-to-face as well as 243 e-learning students. The Mann-Whitney U test results applied for the course are displayed in the following tables.

Table 2. Ranks for *Issues in Linguistics*

Students	N	Mean Rank	Sum of Ranks
f-to-f	366	302.14	110583.50
E-learning	243	309.31	75161.50
Total	609		

Table 3. Test Statistics[a]

	Scores
Mann-Whitney U	43422.500
Wilcoxon W	110583.500
Z	-.494
Asymp. Sig. (2-tailed)	.621

a. Grouping Variable: Students

As shown in Table 3, the obtained p-value is bigger than 0.05 and it indicates that there is no significant difference between the groups. Likewise, the mean rank of the two groups is relatively similar with a small difference which emphasizes the same result.

The second course, *Principles and Methods of Teaching Language Skills, included* 270 face-to-face and 224 e-learning students. Below, the results of the Mann-Whitney U test are depicted in details.

Table 4. Ranks for *Principles and Methods of Teaching Language Skills*

Students	N	Mean Rank	Sum of Ranks
f-to-f	270	249.50	67365.00
E-learning	224	245.09	54900.00
Total	494		

Table 5. Test Statistics[a]

	Scores
Mann-Whitney U	29700.000
Wilcoxon W	54900.000
Z	-.342
Asymp. Sig. (2-tailed)	.732

a. Grouping Variable: Students

The findings did not represent any significant difference between the face-to-face and e-learning students as the p-value is bigger than 0.05.

The next course was *English for Specific Purposes* with 255 face-to-face and 251 e-learning students. Tables 6 and 7 show the results of running Mann-Whitney U test on the groups' scores.

Table 6. Ranks for *English for Specific Purposes*

Students	N	Mean Rank	Sum of Ranks
f-to-f	255	251.01	64008.50
E-learning	251	256.03	64262.50
Total	506		

Table 7. *Test Statistics* [a]

	Scores
Mann-Whitney U	31368.500
Wilcoxon W	64008.500
Z	-.387
Asymp. Sig. (2-tailed)	.699

a. Grouping Variable: Students

The same goes for the course in question as shown in the two previous ones. Here, the p-value of the tables refers to a number bigger than 0.05 as the index of the analysis. Moreover, the mean ranks are almost the same with a little negligible difference. Thus, no significant difference is implied by the information displayed in the tables.

The forth selected course for comparison was *Discourse Analysis* with 256 face-to-face as well as 287 e-learning students participating in the exam. In this case, the results are pointing to something different from the previous ones. The details are represented below.

Table 8. Ranks for *Discourse Analysis* Course

Students	N	Mean Rank	Sum of Ranks
f-to-f	256	295.17	75564.00
E-learning	287	251.33	72132.00
Total	543		

Table 9. Test Statistics [a]

	Scores
Mann-Whitney U	30804.000
Wilcoxon W	72132.000
Z	-3.256
Asymp. Sig. (2-tailed)	.001

a. Grouping Variable: Students

Table 10. *Medians Calculated for each group*

Students	Scores
f-to-f	14.6700
E-learning	13.4690
Total	14.0000

The p-value represented in Table 9 is smaller than 0.05 and highlights a significant difference between the groups' scores. The Z value in the same table also shows a big difference in the results. Mean ranks displayed in Table 8 are quite different as well. Here, to obtain a more reliable result,

the medians of each groups' scores were cal-calculated too. As shown in Table 10, the face-to-face students have achieved significantly higher scores than the e-learning ones.

The last course was *Foreign Language Testing* consisting of 279 face-to-face and 309 e-learning students taking the exam. The following tables reveal the results of applying Mann-Whitney U test on the scores.

Table 11. Ranks for *Foreign Language Testing*

Students	N	Mean Rank	Sum of Ranks
f-to-f	279	319.64	89179.50
E-learning	309	271.80	83986.50
Total	588		

Table 12. Test Statistics[a]

	Scores
Mann-Whitney U	36091.500
Wilcoxon W	83986.500
Z	-3.420
Asymp. Sig. (2-tailed)	.001

a. Grouping Variable: Students

Table 13. Medians Calculated for each group

Students	Scores
f-to-f	14.0000
E-learning	12.9310
Total	13.3300

Similar to the results for *Discourse Analysis*, the information displayed in Tables 11, 12, and 13 above refer to a significant difference between the groups as the p-value is less than 0.05. Meanwhile, mean ranks as well as the medians in the first and last tables illustrate the existing difference in a clear way. Based on the results, the face-to-face students outperformed their e-learning counterparts in *English Language Testing*.

As to the second research question, since the groups of female and male students per course were not normally distributed (i.e. the significance value of Kolmogorov-Smirnov test in each case was smaller than 0.05), a Mann-Whitney U test at 0.05 levels of significance was utilized to analyze the scores, as before. The following table illustrates the result of normality test on one of the existing courses as an instance.

Table 14. Test of Normality for *Discourse Analysis*

Students		Kolmogorov-Smirnov[a]		
		Statistic	df	Sig.
Scores	Female	.214	223	.000
	Male	.234	64	.000

a. Lilliefors Significance Correction

Having analyzed the data, no significant difference was found between male and female students for any single course's scores and their achievements tended to be similar to a large extent (p-value in each case was greater than 0.05). Consequently, since the interpretation of the results for each course was rather the same as the analyses for the previous research question, only the ranks and test statistics for each course are displayed in the following tables with no further comments.

Table 15. Ranks for *Issues in Linguistics*

Students	N	Mean Rank	Sum of Ranks
Female	165	120.35	19858.50
Male	78	125.48	9787.50
Total	243		

Table 16. Test Statistics[a] for *Issues in Linguistics*

	Scores
Mann-Whitney U	6163.500
Wilcoxon W	19858.500
Z	-.532
Asymp. Sig. (2-tailed)	.595

a. Grouping Variable: Students

Table 17. Ranks for *Principles and Methods of Teaching Language Skills*

Students	N	Mean Rank	Sum of Ranks
Female	168	114.21	19187.50
Male	56	107.37	6012.50
Total	224		

Table 18. Test Statistics [a] for *Principles and Methods of Teaching Language Skills*

	Scores
Mann-Whitney U	4416.500
Wilcoxon W	6012.500
Z	-.686
Asymp. Sig. (2-tailed)	.492

a. Grouping Variable: Students

Table 19. Ranks for *English for Specific Purposes*

Students	N	Mean Rank	Sum of Ranks
Female	187	125.59	23485.50
Male	64	127.20	8140.50
Total	251		

Table 20. Test Statistics[a] for *English for Specific Purposes*

	Scores
Mann-Whitney U	5907.500
Wilcoxon W	23485.500
Z	-.153
Asymp. Sig. (2-tailed)	.878

a. Grouping Variable: Students

Table 21. Ranks for *Discourse Analysis Course*

Students	N	Mean Rank	Sum of Ranks
Female	223	146.54	32679.00
Male	64	135.14	8649.00
Total	287		

Table 22. Test Statistics [a] *Discourse Analysis*

	Scores
Mann-Whitney U	6569.000
Wilcoxon W	8649.000
Z	-.971
Asymp. Sig. (2-tailed)	.331

a. Grouping Variable: Students

Table 23. Ranks for *Foreign Language Testing*

Students	N	Mean Rank	Sum of Ranks
Female	234	151.91	35546.00
Male	75	164.65	12349.00
Total	309		

Table 24. Test Statistics [a] for *Foreign Language Testing*

	Scores
Mann-Whitney U	8051.000
Wilcoxon W	35546.000
Z	-1.081
Asymp. Sig. (2-tailed)	.280

a. Grouping Variable: Students

All in all, the results of data analyses showed that face-to-face and e-learning students preformed similarly in three courses (*Issues in Linguistics*, *English for Specific purposes*, and *Principles and Methods of Teaching Language Skills*), but in two other courses (*English Language Testing* and *Discourse Analysis*) the face-to-face students outperformed their e-learning counterparts. Since in none of the courses, e-learning students did better than face-to-face students, it can be claimed that the null hypothesis for the first research question was partially rejected in favour of face-to-face students.

As for the second research question concerning the possible difference in the performance of male and female students in e-learning courses, no significant difference was observed. Therefore, the null hypothesis suggested for the second question was supported.

Discussion

The results of data analyses for the first research question provided partial support for the first research hypothesis. There was no significant difference between the performances of the two groups in three out of the five courses; therefore, the results supported some of the previous studies reported in the literature. A case in point is McDonald et al.'s (2004) study in which traditional students outperformed the online students. Likewise, Friday, et al. (2008) as well as Daymont and Blau (2008) reported no statistically significant differences between the performance of students in online and traditional learning.

The results of research in Iranian context indicated the same point. In 2012, Mosalanejad et al. and Nourian et al. came up with the same results and found no significant difference between the performances of the two groups.

On the other hand, a number of studies have reported results inconsistent with what was obtained in the present study. To enumerate some, the report of the U.S. Department of Education as well as Zhang et al.'s (2004) study claimed that online students outperformed their face-to-face counterparts.

The students' similar performances in three of the courses under study (*Issues in Linguistics*, *English for Specific purposes*, and *Principles and Methods of Teaching Language Skills*) might be due to the fact that the content of these courses are rather familiar to students. To put it simply, whenever the course content is familiar to students, they can rely on their background knowledge and even without attending their classes and getting involved in any interaction and discussion with their instructors, they might be able to pass the exams successfully. For example, MA students study *teaching methods* and *Issues in Linguistics* in their BA programs; however, courses such as *Discourse Analysis* are rather new to TEFL students and in their face-to-face classes they might have more chances of getting involved in interaction with their teachers leading to better results, an opportunity that is missing in their e-learning classes. The shortcomings of the present e-learning program such as the large number of students in each class, the Internet slow connection, and poor audio and video quality can seriously diminish the level of interaction between teachers and students.

With regard to the second research question, the findings revealed no significant difference between e-learning male and female students. The result is in line with the studies conducted before such as Daymont and Blau (2008) who asserted that female students learning virtually are by and large the same as their male counterparts. By the same token, Yukselturk and Bulut (2009) found that gender variable was unrelated to learning outcomes in online courses.

Nevertheless, some studies were in contrast with the findings of the study. Tai, Chen, Zhang, Tai, and Hu (2013), for example, investigated the gender differences in visual presentation e-learning. They strongly believed that after the experimental teaching, male and female students performed differently meaning that there were gender differences in reaction to visual presentation.

Conclusions and Implications

The present study came up with a number of findings which led to some conclusions. The results of this study highlight the importance of interaction and social context in teaching and learning. Interaction and discussion in online courses take place through texts, so solid writing skill is needed to take part in discussions, a skill that many PNU students do not possess. In addition to solid writing skill, taking active part in e-learning setting needs a high level of digital literacy. Deficiency in any of these skills could have contributed to lower level of performance. Students in face-to-face classes in this study outperformed their e-learning counterparts to some extent. The results confirmed the outcomes of some other studies and rejected some others. However, the contexts in which each of the mentioned studies has been done cannot be ignored. As mentioned previously, the reasons behind the results of the first part of the study could be the content of the courses, the technical problems of implementing e-learning at PNU, and lack of the necessary skills for taking part in e-learning classes.

The potential advantages and contributions that e-learning can bring to the arena of language teaching and learning has attracted a substantial number of students to PNU e-learning program. Although e-learning at PNU might be considered an excellent way for students to overcome the problems of attending face to face classes in remote cities and leaving families and works behind, as it does the same around the world, there should be an in-depth assessment carried out on the factors hindering the e-learning students from keeping up with their face-to-face counterparts in some courses. More specifically, a precise evaluation needs to be done on the management of e-learning classes by instructors, the Web-based material, and the necessary technical equipment for the program.

The findings of the study might be beneficial for the university's authorities and those involved in syllabus design for TEFL students to review the whole e-learning system to reveal its merits and demerits. The present study was done only on five courses and it goes without saying that replicating the study with all the courses can yield more reliable results. Besides, not all the instructors of the e-learning and face-t-face classes in this study were the same. There is no doubt that replicating the study with same instructors for both modes can lead to more valid conclusions.

With regard to the second part of the study, many areas remain to be explored. For example, male and female students' performance, motivation, perception, study habits, and communication behaviours in e-learning environment can be subject for further research.

References

Amanzade, Amene; Nomanof, Mansour. (2015). Studying the influence of training based on web and computer and mobile learning on students' critical thinking skills and creative thinking in students of Mazandaran province universities. Journal of research in school and virtual learning. 3, 9, 57 -68Chingos, M., Schwerdt, G. (2014). Virtual Schooling and Student Learning: Evidence from the Florida Virtual School. *Program on Education Policy and Governance Working Papers Series*. Pp. 3-14.

Chyung, S. Y. (2007). Age and gender differences in online behavior, self-efficacy and academic performance. *Quarterly Review of Distance Education, 8*, 3, 213-222.

Daymont. T. & Blau, G. (2008). Student Performance in Online and Traditional Sections of an Undergraduate Management Course. *Institute of Behavioral and Applied Management*, pp. 275-294.

Deerajviset, P., & Harbon, L. (2014). E-learning in EFL education in Thailand's higher education: The role for lecturers making it work. *University of Sydney Papers in TESOL*, 9, 37-63.

Dell, C., A., Low, Ch., Wilker, J. F. (2010). Comparing student achievement in online and face-to-face class formats. *Journal of Online Learning and Teaching*. 6, 1. Retrieved from *http://jolt.merlot.org/ vol6no1/dell_0310.htm*

Feintuch, H. (2010). Keeping their distance; new studies indicate students perform better online. *Diverse Issues in Higher Education*, 27, 3, retrieved from https://www.td.org/Publications/Newsletters/Links

Fletcher, J., Nicholas, K. & Davis, N. (2011). Supporting adults to address their literacy needs using e-learning. J*ournal of Open, Flexible and Distance Learning 15,1,* 17-29.

Friday, E., Friday-Stroud, S.S, Green, A.L. & Hill, A.Y. (2008). A multi-semester comparison of student performance between multiple traditional and online sections of two management courses. *Journal of Behavioral and Applied Management*, 8, 1, 66-81.

Gunn, C., McSporran, M., Macleod, H. & French, S. (2003). Dominant or different? Gender issues in computer supported learning. *Journal of Asynchronous Learning Networks, 7*, 14-30.

Jaggars, SH. & Baily, T. (2010). Effectiveness of Fully Online Courses for College Students: Response to a Department of Education Meta-Analysis. Community College Research Center, Teachers College, Columbia University.

Jahng, N., Krug, D. & Zhang, Z. (2007). Student achievement in the online distance education compared to face-to-face education. *European Journal of Open, Distance and E-Learning.* Retrieved from http://www.eurodl.org/materials/contrib/2007/Jahng_Krug_Zhang.htm

Kahiigi, E.K., Ekenberg, L., Hansson, H., Tusubira, F.F. & Danielson, M. (2008). Exploring the e-learning state of the art. *The Electronic Journal of e-Learning*, *6* (2), 77-88. Retrieved from *http://www.ejel.org*

Khampusaen, D. (2012). Successful e-Learning in Universities' EFL Classrooms: What do Teachers and Students Need? *The Eighth International Conference on E-learning for Knowledge-Based Society*. *23-24 February 2012, Thailand*. pp.1-11.

McDonald, M., Dorn, B. & McDonald, G. (2004). A Statistical Analysis of Student Performance in Online Computer Science Courses, *in Proceedings of the 35th SIGCSE technical symposium on Computer science education*, ACM Press, New York, NY, USA, pp. 71 – 74.

Mosalanejad, L., Shahsavari, S., Sobhanian, S. & Dastpak, M. (2012). The effect of virtual versus traditional learning in achieving competency-based skills. *Turkish Online Journal of Distance Education*, 13, 2, 69-75.

Ni, A. Y. (2013). Comparing the Effectiveness of Classroom and Online Learning: Teaching Research Methods. *Journal of Public Affairs Education*, *JPAE 19*, 2, 199–215.

Nourian, Az., Nourian, Al., Ebnahmadi, A., Akbarzadeh, A. & Khoshnevisan, M., H., (2012). Comparison of E-learning and Traditional Classroom Instruction of Dental Public Health for Dental Students of Shahid Beheshti Dental School during 2010-2011. *Journal Dental School*, 30,3, 174-183.

Omidinia, S., Masrom, M. & Selamat, H. (2011). A Review of e-learning and ICT infrastructure in developing countries (Case study of Iran). *American Journal of Economics and Business Administration*, 3,1, 120-125.

Price, L. (2006). Gender differences and similarities in online courses: challenging stereotypical views of women. *Journal of Computer Assisted Learning, 22*, 349–359.

Sangra, A., Vlachopoulos, D. & Cabrera, N. (2012). Building an Inclusive Definition of E-Learning: An Approach to the Conceptual Framework. *The International Review of Research in Open and Distance Learning*. 13, 2, 145-159.

Tai, D., Chen, J., Zhang, R., Tai, V. & Hu, Y. (2013). Gender differences in visual presentation e-learning. *World Transactions on Engineering and Technology Education*, 11, 3, 274-279.

Yukselturk, E. & Bulut, S. (2009). Gender Differences in Self-Regulated Online Learning Environment. *Educational Technology & Society*, *12*,3, 12–22.

Zhang, D., Zhao, J. L., Zhou. L. & Nunamaker, J. F. Jr. (2004) Can e-Learning Replace Classroom Learning? *Communications of the ACM*, 47, 5, 75-79.