

**Using Blended Learning for Enhancing EFL Prospective Teachers'
Pedagogical Knowledge and Performance**

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Abstract

The basic objective of the present study is to investigate the effectiveness of using blended learning model in developing EFL prospective teachers' pedagogical knowledge and performance. The study sample included 38 EFL Saudi prospective teachers (fourth-year students) at the Faculty of Education & Arts, University of Tabuk, KSA. To collect the data required, a blended TEFL course, a pedagogical knowledge test, and a pedagogical performance scale were designed and implemented. During the first term of the academic year 2008-2009, the participants were divided into two equal groups in terms of their number, accumulative grade point, and pedagogical knowledge. The first group studied four TEFL units using the traditional face-to-face model, while the second group studied the same four units using the suggested blended learning model. Results of the pedagogical knowledge test revealed that the mean scores of the EFL prospective teachers in the blended group surpassed the mean scores of those who were in the traditional face-to-face group. In addition, there were no significant differences between the two groups in terms of their mean scores on the pedagogical performance scale. The main conclusion was that blended learning model was more effective than face-to-face learning in developing EFL prospective teachers' pedagogical knowledge. However, both blended learning and face-to-face proved to have almost the same effectiveness in developing EFL prospective teachers' pedagogical performance.

Introduction

Technology has brought a drastic change in business and now it is revolutionizing education. Technological innovations are expanding the range of possible solutions that can improve teaching and learning inputs, processes, and outcomes. Information and communication technologies offer a possibility to apply new learning and teaching practices. Digital technologies have led to more integration between computer-mediated instructional elements and traditional face-to-face learning practices. The most important result of combining technology and education is the emergence of e-learning.

Nowadays, e-learning has grown and expanded in exponential ways at the expense of traditional face-to-face learning that has been around for

centuries. Making good use of computers and Internet, e-learning has become the fastest-growing online model for delivering education and training. Pedagogically speaking, e-learning has changed the way people learn and teach. Moreover, instructional design and evaluation procedures have been witnessing continual modifications and changes to meet the e-learning demands.

Keeping one eye on traditional face-to-face learning benefits and another on e-learning advantages has paved the way to the emergence of "blended learning". In this sense, blending learning aims at combining the advantages of both face-to-face and e-learning environments. In practice, blending learning offers the possibility to benefit from the supportive classroom direct interaction and the flexibility of online learning. Hopper (2003) stated that blended courses proved to be more effective than fully online courses as it can create a positive relationship between face-to-face and online environments. Moreover, Dziuban, Hartman, and Moskal (2004) highlighted the positive effects of combining face-to-face and online instruction on learning outcomes, lowering attrition rates, and learners' satisfaction. Garrison and Kanuta (2004) remarked that blended learning has the power to promote deep learning. According to Stacey and Gerbic (2008), the advantages of blended learning have been backing its central position in higher education.

In practice, the University of Phoenix sets a good example for blended learning. The university provides an equivalent learning experience through its face-to-face residential programs, entirely online programs, and blended learning programs. This system allows learners to choose the option that best meets their cost and time constraints. Moreover, the University of Central

Florida is another example for blended learning where blended courses replaced face-to-face class time with online learning so that a three-hour course occupied only one hour of actual face-to-face classroom time (Dziuban and Moskal, 2001). In addition, Martyn (2003) suggested a successful blended learning model that consists of an initial face-to-face meeting, weekly online assessments and synchronous chat, asynchronous discussions, e-mail, and a final face-to-face meeting with a proctored final examination.

Context of the Problem

In the Kingdom of Saudi Arabia, the University of Tabuk has been taking serious actions to make e-learning academic and pedagogical. Currently, the university is constructing an e-learning unit. Moreover, in 2008, the university dedicated its 2nd annual forum to e-learning. Furthermore, the university hires international and national experts to train the faculty members on e-learning. However, the utilization of e-learning and blended learning is not up to the required level where most of the current university teaching and learning practices seem traditional in terms of form and content. Albalawi and Badawi (2008) mentioned that most of the faculty members working at the University of Tabuk perceive e-learning negatively so that they refrain from using e-learning or blended learning. Regarding the faculty of Education and Arts where the researcher works as a TEFL professor, it has been noticed that no single attempt was made to offer any e-learning or blended learning course till now. To throw a stone into the stagnant water, the researcher attempted to use blended learning for teaching the *TEFL Methodology Course* assigned to EFL prospective teachers at the University of Tabuk.

Statement of the Problem

The present study is concerned with investigating the effectiveness of blended learning in enhancing EFL prospective teachers' pedagogical knowledge and performance.

Research Questions

The study attempted to answer the following two questions:

1. To what extent is blended learning approach effective in enhancing EFL prospective teachers' pedagogical knowledge?
2. To what extent is blended learning approach effective in enhancing EFL prospective teachers' pedagogical performance?

Research Objectives

This study tried to achieve the following objectives:

1. To compile a blended TEFL course.
2. To develop a pedagogical knowledge test (PKT).
3. To develop a pedagogical performance rating rubric scale (PPS).
4. To explore the effect of using blended learning on developing EFL prospective teachers' pedagogical knowledge and performance.
5. To provide the university with more information on blended learning that may help the under-construction e-learning unit.

Research Significance

The significance of this study stems from the following considerations:

1. The American Society for Training and Development identified blended learning as one of the top ten trends to emerge in the knowledge delivery industry (Rooney, 2003).

2. Spreading the culture of blended learning at the University of Tabuk needs more efforts and research.
3. EFL prospective teachers need to be familiar with new teaching/learning approaches among which blended learning.
4. Updated TEFL courses help prepare competent EFL teachers.
5. This study may break new ground for more blended learning studies in EFL context at tertiary level.
6. Developing EFL prospective teachers' teaching performance is crucial since many teachers teach the way they were taught.

Review of Literature

Blended Learning Definition

Literature on blended learning documents the idea that there is no consensus on blended learning definition. Some researchers define blended learning as a combination of instructional modalities or delivery media (Orey, 2002; Singh & Reed, 2001; Thomson, 2002). Others identified blended learning as a combination of instructional methods (Driscoll, 2002; Rossett, 2002). Many writers recognized blended learning as a combination of online and face-to-face instruction (Reay, 2001; Rooney, 2003; Sands, 2002; Ward & LaBranche, 2003; Young, 2002). Graham (2006, 3) suggested that "blended learning systems combine face-to-face instruction with computer-mediated instruction". More recently, Garrison & Vaughan (2008, 5) defined blended learning as "the thoughtful fusion of face-to-face and online learning experiences". Seemingly, the above definitions failed in deciding the nature of blended learning where blended learning was referred to as a set of *modalities, methods, systems and experiences* respectively. Moreover, while some definitions succeeded in specifying *what* to be blended, others did not. Hence,

the current study suggests that blended learning is a flexible approach that combines face-to-face learning activities with online learning practices that allow both teachers and learners exchange collective and individual feedback synchronously and asynchronously.

Blended Learning Rationale

The first rationale supporting blended learning is that it encourages the development of critical thinking skills and satisfies students' needs (Owston et al., 2006). Moreover, blended learning courses enable students to achieve higher than traditional courses and decrease withdrawal rates (Dziuban et al., 2006). In addition, blended learning provides more productive engagement among students in the online environment and in course content as well (Ziegler, Paulus, & Woodside, 2006). The second rationale is that blended learning offers more flexibility to learners because some of the learning takes place at scheduled face-to-face times, while other parts of it may occur online at their convenience. This feature is especially attractive to mature learners who have to balance job and family responsibilities, and to those who do not want to sacrifice entirely the social interaction that comes with face-to-face learning (Owston et al., 2008). The third rationale that can be presented for blended learning is its cost effectiveness. Hartman (2007) reported that at the University of Central Florida saved \$7 million in construction costs and over \$277,000 in annual operating costs through implementation of blended courses.

Moreover, Osguthorpe and Graham (2003) identified six reasons that one might choose to design or use a blended learning system: pedagogical richness, access to knowledge, social interaction, personal agency, cost-effectiveness, and ease of revision. For Graham (2006, 6), the most common

reason for adopting blended learning is that "BL combines the best of both worlds". Graham, Allen, and Ure (2005) stated that people choose blended learning for: improved pedagogy, increased access and flexibility, and increased cost-effectiveness.

As for improved pedagogy, blended learning has the potential to provide more effective interactive pedagogical practices. This approach reduces higher education instructors' dependence on lecturing. Similarly, Waddoups and Howell (2002) remarked that fully online learning often suffers from making large amounts of information available for students to absorb independently. BL can establish a meeting point between face-to-face and fully-online. Smelser (2002) pointed out that BL approaches increase the level of active learning strategies, peer-to-peer learning strategies, and learner-centered strategies. Graham (2006) cited some practical blended learning models. For example, the three-phase blended learning model of IBM that allows learners go through: online self-paced learning to acquire background information, face-to-face learning lab focused on active learning and application experiences instead of lecture, and online learning and support for transferring the learning to the workplace environment. Moreover, Brigham Young University uses online modules to help students acquire the tool-related skills and technical information and then uses precious face-to-face class time to focus on application, case studies, and develop decision-making skills (Cottrell & Robison, 2003).

With respect to increased access and flexibility, blended learning insures both learning accessibility and flexibility. Access to learning is one of the key factors influencing the growth of blended learning environments (Bonk, Olson, Wisher, & Orvis, 2002). Learner flexibility and convenience are

also of growing importance as more mature learners with outside commitments such as work and family seek additional education. Many learners want the convenience offered by an online environment yet do not want to sacrifice the social interaction and human touch they are used to in a face-to-face classroom. Blended learning keeps a sort of balance between flexible learning options and the interactive human experience. In this respect, Graham (2006) mentioned two blended learning examples: The University of Central Florida that offers many blended courses making good use of the flexibility and accessibility of online learning and the corrective live experiences gained from face-to-face classes. Moreover, the University of Phoenix adopts a blended learning model that allows learners go through face-to-face socializing in orientations as well as presentation experiences at the beginning and ending of a course, with online learning experiences in between.

Regarding increased cost-effectiveness, it is the third major goal for blended learning models in higher education institutions. Blended learning models provide an opportunity for reaching a large, globally dispersed audience in a short period of time with consistent, semi-personal content delivery. The University of Central Florida, for example, has predicted cost savings due to cost reductions in physical infrastructure and improved scheduling efficiencies, which have yet to materialize (Graham, 2006).

Blending Levels

With respect to blending levels, literature on blended learning reveals that there are four levels for conducting blended learning: activity level, course level, program level, or institutional level. Across all four levels, the nature of

the blends is determined by the learner or the designer or instructor (Graham, 2006).

Blending at the activity level takes place when a learning activity contains both face-to-face and online elements. Learners may take part of the lesson in class and may be asked to complete the rest of lesson online or vice versa. In addition, technology can be used to bring experts at a distance into the classroom, creating a simultaneous face-to-face and online experience. Simply, technological tools can be used to make learning activities more authentic.

Course-level blending is one of the most common ways of blending. It entails a combination of some face-to-face and online activities within a given course. According to Graham (2006), some blended approaches engage learners in different but supportive face-to-face and online activities that overlap in time, while other approaches separate the time blocks so that they are sequenced chronologically but not overlapping.

Program- level blending prevails in higher education where blending is often occurring at the degree program level. Blending at a program level often entails one of two models: a model in which the participants choose a mix between face-to-face courses and online courses or one in which the combination between the two is prescribed by the program. In this respect, Graham (2006) mentioned two examples: In Japan, there are certain face-to-face courses that are required for a program and the rest can be taken at a distance. The New Zealand Law Diploma program is conducted mostly online, with about 15 percent of the learning time in a face- to-face setting.

Institutional-level blending refers to the organizational commitment to blending face-to-face instruction and online instruction. Many higher

education institutions are creating models for blending at an institutional level. The University of Phoenix, has an institutional model for blending, where students have face-to-face classes at the beginning and end of the course, with online activities in between (Graham, 2006). Furthermore, the University of Central Florida has reduced face-to-face seat-time through blended courses. Brigham Young University has a general education requirement that students must have one online learning course experience to graduate (BYU-Idaho, 2004). Brigham Young University has experimented with “semester online” courses where on-campus students can enroll for an online course along with other campus-based courses (Waddoups & Howell, 2002). Similarly, at the University of Illinois, traditional on-campus economics students have been allowed to take a required course online while they were off-campus for the summer (Wang, Kanfer, Hinn, & Arvan, 2001).

Types of Blends

Graham (2006, 9) identified three types of blended learning that are "enabling blends, enhancing blends, and transforming blends". Firstly, enabling blended models tend to provide additional flexibility to the learners or blends that attempt to provide the same opportunities or learning experience but through a different modality. Secondly, enhancing blends allow slight changes to the pedagogy but do not radically change the way teaching and learning happen. That is to say, some additional online resources and supplementary materials may be added to the traditional face-to-face learning environment. Finally, transforming blends allow a radical transformation of the pedagogy. Transforming types tend to allow learners to actively construct knowledge through dynamic interactions.

Success Factors of Blended Learning

Blended learning literature has documented a set of success factors. Sharpe, Benfield, Robert and Francis (2006) mentioned some success factors, among which, institutional practices should be regularly evaluated and the results must be publicized. The combination of the virtual and physical environments should consider the strengths and weaknesses of each environment. Blended learning models should cater for the local institutional needs. Mason and Rennie (2006) remarked that blended learning models should meet learners' needs and teachers' readiness. Littlejohn and Pegler (2006) recommended that teachers' workloads must be taken into account in blended learning. Vaughan (2007) called for more effort to correct student beliefs that fewer face-to-face classes mean less work. Students need to develop more responsibility for their learning and time management skills must be taken into account. Tabor (2007) pointed out that blended learning requires organizational readiness, sufficient technical resources, motivated teachers, good communication facilities, and feedback channels. Moreover, students' learning maturity and readiness for blended learning with its demands for independent learning must be considered. Vaughan (2007) advocated the idea that blended learning needs continuing professional development for teachers. Finally, Garrison and Vaughan (2008) proposed that blended learning should be introduced as a scholarly and transformative redesign process.

Previous Research

King (2002) explored the dynamics and experience offered for a professor and learners participating in a hybrid-modeled classroom in teacher education. The author found that hybrid online class discussions had the

potential of prompting critical thinking, dynamic interactive dialogue, and substantial peer-to-peer interaction. Students benefited from less driving time, and technology usually did not distract from learning. The hybrid model also allowed for more creative and interactive course assignments. One key limitation of the hybrid model is that it is affected by computer worms, power failures, and other technology problems.

Christensen (2003) designed a blended learning course in introductory instructional design. The process included evaluating purposes of the course, audiences and learning objectives. Two different pilots of the course were undertaken and statistics regarding the outcomes and comparison to the same face-to-face course are included. Results showed that blended learning outcomes surpassed the outcomes of the same face-to-face course.

Cottrell & Robinson (2003) investigated the possibility of using blended approaches to reduce faculty time, re-focus student time and using blended learning as a way to admit more students to a given academic program. Students reported preferring the blended learning approach and classroom time was reduced.

Dowling, Godfrey, & Gyles (2003) investigated the association between the learning outcomes of students and two teaching models: traditional face-to-face and hybrid flexible delivery. Results indicated that the hybrid flexible delivery model improved learning outcomes and it was more positively associated with students' final marks.

O'Toole & Absalom (2003) investigated whether or not the provision of course materials on the Internet had a positive effect on student achievement of course outcomes. The authors found that those students who

attended lecture and read web materials performed better on the quiz than did those students who only attended lecture or only used the web.

Riffell & Sibley (2003) examined the effect of a hybrid learning format on student perceptions in an Environmental Biology course. The hybrid instructional format included face-to-face classroom exercises and online homework. Results indicated that students experienced more student-instructor interaction in the hybrid course than in a traditional course format. Also, time-management skills and learning were aided by online homework.

Utts, Sommer, Acredolo, Maher, & Matthews (2003) explored differences between a hybrid format and traditional format course in introductory statistics. Student performance in the hybrid format equaled that of the traditional format, but students in the hybrid format were slightly less positive in their subjective evaluation of the course. Many students in the hybrid format felt the course was more work, with some feeling the workload was excessive.

Ausburn (2004) carried out a study to identify course design elements most valued by adult learners in blended learning environments. These rankings were then compared to other sub-groups based on gender, pre-course technology, self-direction skills and experiences and preferred learning strategies. Results indicated that adults valued course designs containing options, personalization, self-direction, variety, and a learning community. Moreover, participants' gender, preferred learning strategies, and previous experience were correlated with technology and self-directed learning.

Priluck (2004) examined the effect of two technologically different teaching methods of marketing course on student responses. A traditional, face-to-face- method of teaching was compared to a web-assisted method of

instruction. Results indicated that students in the traditional course were more satisfied with their learning experience. These students felt that the course helped them develop their skills in critical thinking, team building, and social interaction.

Pereira et al (2007) investigated the impact of blended learning strategies on the academic achievement and satisfaction of first year students of the biology degree curriculum at Pompeu Fabra University, Barcelona. The participants were divided into two groups. Group one (n = 69) was taught by blended learning, while group two (n = 65) received traditional teaching. Results showed that the percentage pass rate of the first group (87.9%) was higher than the second group (71.4%). It was clear that blended learning was more effective than traditional teaching in developing students' academic achievement in human anatomy. Moreover, there were no differences regarding overall satisfaction with the teaching received.

The above review of literature reveals that blended learning represents a core research area for many researchers. There is enough theoretical and procedural evidence on blended learning favoring its effectiveness. Moreover, it is clear that blended learning seems to be applicable to a wide range of disciplines and courses. Another remark is that blended learning is common in higher education. More importantly, no previous research has been carried out to investigate the effectiveness of using blended learning in developing EFL prospective teachers' pedagogical knowledge and performance. These remarks help justify conducting the present study.

Definition of terms

In light of the study objectives and the insights gained from the review of literature, the current study operationally defines the basic terms as follows:

Pedagogical knowledge

Pedagogical knowledge refers to teachers' knowledge about the basic teaching/learning matters such as learning theories, teaching approaches, curriculum designs, evaluation techniques, and relevant managerial issues. Operationally, the pedagogical knowledge refers to EFL prospective teachers' awareness of four specific teaching/learning areas namely; learner feedback, learner strategies, authentic material, and alternative assessment. The suggested pedagogical knowledge mastery level is 80% or more as measured by the pedagogical knowledge test (PKT).

Pedagogical performance

Pedagogical performance refers to teachers' teaching/learning practices and activities inside and outside classroom such as lesson preparation, lesson delivery, teaching/learning materials manipulation, test preparation and correction, and IT utilization. Operationally, the pedagogical performance refers to EFL prospective teachers' in-class-practices concerning four specific areas namely; learner feedback, learner strategies, authentic material, and alternative assessment. The minimum performance level (MPL) of EFL teachers' pedagogical performance is 80% as measured by the pedagogical performance scale (PPS).

Blended learning

Procedurally, the current study defines blended learning as a flexible approach that combines face-to-face learning activities with online learning practices that allow students to exchange collective and individual feedback on and responses to the four specific areas namely; learner feedback, learner strategies, authentic material, and alternative assessment synchronously and asynchronously.

Methodology

Participants

The sample of the study involved 38 EFL male Saudi prospective teachers at the Faculty of Education & Arts, University of Tabuk, KSA. The sample was, almost, homogeneous. In terms of age, the participants' age was ranging from 21 to 22 years. The study sample was limited to the fourth year students to ensure language experience uniformity. Students' accumulative grade point was recognized to decide the participants' academic level. Furthermore, all the participants were pre-tested via the pedagogical knowledge test (PKT) to determine their current pedagogical knowledge. Such procedures helped divide the sample into two equivalent groups where; the first was the experimental and the second was the control group. The mean scores of the two groups on the PKT were (5.58) and (5.11) respectively. Each group involved 19 participants.

Research Hypotheses

The study tested the following hypotheses:

1. There would be no statistically significant difference between the mean scores of the control group (exposed to face-to-face learning) and the experimental group (exposed to blended learning).
2. There would be no statistically significant difference between the mean scores of the control group (exposed to face-to-face learning) and the experimental group (exposed to blended learning).

Instruments

I- The Blended Learning Course (BLC)

The blended learning course was designed to provide the EFL prospective teachers at the Faculty of Education & Arts, University of Tabuk,

with the basic knowledge and practices of teaching English as foreign language (TEFL). The course contains four units targeting four topics namely, "Learner Feedback", "Learner Strategies", "Authentic Material", and "Alternative Assessment" respectively. The four topics were selected because they match the topics mentioned in the prescribed TEFL course. The course content was mainly adopted from the online site of University of Oregon: *Shaping the Way We Teach English, Online English Language Center*: URL: <http://oelp.uoregon.edu/shaping>. Three TEFL specialists reviewed the course content and objectives and approved its validity and practicality. In advance, the EFL prospective teachers agreed to watch the core course video materials which contain female teachers, female students, and mixed classes.

II- The Pedagogical Knowledge Test (PKT)

The pedagogical knowledge test (PKT) was designed to be used as a pre/post test to assess the EFL prospective teachers' pedagogical knowledge in relation to four topics; "Learner Feedback", "Learner Strategies", "Authentic Material", and "Alternative Assessment". The test consists of 20 true/false items. Each topic was covered by 5 test items. The total test score was 20 points where one point was devoted to each correct answer and zero to the wrong one. Test time was 30 minutes. Technically, the test validity was evaluated by three TEFL experts who reviewed the test approved its validity in terms of its content and format. According to the result of the test-retest procedure, the test proved reliable where $(r) = .86$.

III-The Pedagogical Performance Scale (PPS)

The pedagogical performance scale (PPS) was designed to assess EFL prospective teachers' pedagogical performance in both groups. The scale scope was limited to the participants' performance related to the four targeted topics;

"Learner Feedback", "Learner Strategies", "Authentic Material", and "Alternative Assessment". The PPS was developed as a performance rate rubric scale. The scale consists of 4 criteria with 4 different performance rates ranging from superior (the highest = 4) to inferior (the lowest = 1). The maximum score of the scale is 16 points. Using item response theory (IRT), a team consisting of the researcher, three TEFL experts, and two specialists in statistics developed and reviewed the scale. According to the team evaluation, the scale was recognized as a valid scale to assess the pedagogical performance of the EFL prospective teachers. The result of the test-retest procedure showed that the test proved reliable where $(r) = .78$. The suggested minimum performance level (MPL) on the PPS is 80%.

Design and Variables

The present study used the two-group experimental design. The participants were divided into two groups. The experimental group was exposed to the blended learning model whereas the control group studied according to the traditional face-to-face model. Blended learning model and face-to-face model were the dependent variables, whereas EFL prospective teachers' pedagogical knowledge and performance were the independent variables.

Procedures

During the first term of the academic year 2008-2009, the participants were divided into two equal groups. The experimental group studied the target units via the blended learning model, while the control group studied the target units via the traditional face-to-face model. Having the blended learning course developed, the teacher/researcher met the experimental group participants and explained to them the nature and the procedures of using

blended learning. In the same session, the participants were pre-tested via the PKT and given the address of the target Internet sites.

The blended learning experiment lasted for four weeks. The participants studied one unit per week; *Learner Feedback*, *Learner Strategies*, *Authentic Material*, and *Alternative Assessment* respectively. During that time, the participants of the experimental group were encouraged to make good use of some selected blended learning resources especially the site of University of Oregon: *Online English Language Center: Shaping the Way We Teach English*, on URL: <http://oelp.uoregon.edu/shaping>. In addition, they exposed to face-to-face learning environment such as live classroom participation and interaction. In addition to the traditional activities of face-to-face, the participants used some off-line and online blended materials such as CDs, online resources, and emails. The participants were asked to carry out specific tasks such as watching the target videos, reading the suggested reading list, and exchanging their reflections, and feedback via the email group.

On the other hand, the control group studied with the same teacher the same four units during the same time period using face-to-face model as they were not given any access to the online blended materials. Having the two groups completed the four units; they were tested via the post pedagogical knowledge test. In addition, during the teaching practice time, the participants' teaching performance was monitored and evaluated by the researcher via the pedagogical performance scale. Finally, the participants' scores were calculated, tabulated, and statistically analyzed.

Results and Discussion

I- EFL prospective teachers' pedagogical knowledge

Table 1: Differences between the mean scores of the experimental group & the control group on the Pre-PKT

Source	N	Mean	SD	<i>f</i>	<i>t</i>	<i>P</i>
Experimental group	19	5.58	1.50	36	0.910	0.375
Control group	19	5.11	1.76			

Table 1 demonstrates that the mean scores of the experimental group (5.58) is seemingly similar to the mean scores of the control group (5.11) on the pre Pedagogical Knowledge Test (Pre PKT). The difference between the two mean scores is statistically insignificant where the calculated *t* value is (0.910) and the *p* value is more than (0.05). This result assures that the two groups are equal in terms EFL teachers' pedagogical knowledge which in turn assures sample homogeneity. The result is expected since the two groups did not receive any formal education pertinent to the content of the Pedagogical Knowledge Test.

Table 2: Differences between the mean scores of the experimental group & the control group on the Post-PKT

Source	N	Mean	SD	<i>f</i>	<i>t</i>	<i>P</i>
Experimental group	19	15.4	1.71	18	4.27	< 0.0001
Control group	19	11.8	2.99			

As displayed in Table 2, the mean scores of the experimental group (15.4) is higher than the mean scores of the control group (11.8) on the post Pedagogical Knowledge Test (Post PKT). The difference between the two mean scores is statistically significant where the calculated *t* value is (4.27) and the *P* value is less than (0.0001). Accordingly, the first hypothesis was rejected and the alternative one was stated as follows: There are statistically significant differences between the mean scores of the control group (exposed

to face-to-face learning) and the experimental group (exposed to blended learning) as measured by the post Pedagogical Knowledge Test (Post PKT) favoring the experimental group. This result reveals that the blended learning was more effective than the face-to-face learning in enhancing the pedagogical knowledge of the EFL prospective teachers. The result goes in line with the Dziuban et al. (2006) who concluded that blended learning mode enables students to gain higher academic achievement than traditional courses. Moreover, perhaps blended learning satisfies students' needs so that they could gain high scores. Productive engagement in the online environment (Ziegler, Paulus, & Woodside, 2006) may be one of the factors that improved students' achievement. Blended learning accessibility and flexibility are expected to improve students' learning outcomes. Furthermore, blended learning has the potential to provide more effective interactive pedagogical practices. Such potentiality could be one of the causes that improved students' achievement. Empirically, this result is in agreement with the findings of Pereira et al. (2007) that blended learning was more effective than traditional teaching for teaching human anatomy.

Table 3: Differences between the mean scores of the experimental on the pre and post PKT

Source	N	Mean	SD	<i>f</i>	<i>t</i>	<i>P</i>
Pre-experimental	19	5.58	1.50	18	18.82	< 0.0001
Post-experimental	19	15.4	1.71			

As shown in Table 3, the mean scores of the experimental group on the Post PKT (15.4) is higher than the mean scores of the same group on Pre PKT (5.58). The difference between the two mean scores is statistically significant where the calculated *t* value is (18.82) and the *P* value is less than (0.0001). This result does not support the first hypothesis for the second time and

confirms the key finding that the blended learning mode was more effective than the face-to-face mode in developing EFL prospective teachers' pedagogical knowledge. It is expected that the video clips content, email feedback, and in-class face-to-face discussions afforded improved learning environment that helped them improve their pedagogical knowledge.

II- EFL prospective teachers' pedagogical performance

Table 4: Differences between the mean scores of the experimental group & the control group on the PPS

Source	N	Mean	SD	<i>f</i>	<i>t</i>	<i>P</i>
Experimental group	19	13.3	2.00	36	0.815	0.426
Control group	19	13.0	1.60			

Table 4 shows that the mean scores of the experimental group (13.3) is slightly higher than the mean scores of the control group (13.0) on the post Pedagogical Performance Scale (Post PPS). However, the difference between the two mean scores is statistically insignificant where the calculated *t* value is (0.815) and the *P* value is more than (0.0001). Accordingly, the second hypothesis was accepted as it was stated: There would be no statistically significant difference between the mean scores of the control group (exposed to face-to-face learning) and the experimental group (exposed to blended learning) as measured by the Pedagogical Performance Scale (PPS). This result indicates that both blended learning and face-to-face learning almost have equal positive effective in developing the pedagogical performance of the EFL prospective teachers where the mean scores of the control group was (13 out of 16 at percentage value = 81.25%) and the mean scores of experimental group was (13.3 out of 16 at percentage value = 83.13%). Apparently, the two means exceeded the adopted minimum performance level (MPL =80%).

Such insignificant difference between the two groups may be due to the idea that all the participants of the two groups have received the same field guidance by the same teacher. Moreover, developing EFL prospective teachers' pedagogical performance needs more time regardless to the type of learning or training experience. Moreover, developing EFL prospective teachers' pedagogical performance needs field experience under the supervision of a TEFL expert. Finally, this result may support the claim that face-to-face training is effective in developing performance.

Conclusion

In the light of the findings of the present study, it could be concluded that that blended learning is more effective than face-to-face learning in developing EFL prospective teachers' pedagogical knowledge. Both blended learning and face-to-face learning have almost an equal effect on developing EFL prospective teachers' pedagogical performance. Internet ready-made content and emails are effective and accessible for designing and conducting simple blended leaning courses.

Recommendations

The findings of the present study help suggest some pedagogical implications and educational recommendations.

- From a futuristic prospective, higher education institutions should not spend much time negotiating whether to blend or not; efforts should be directed to how to blend.
- English language departments have to adopt blended learning as a main approach for teaching most of the assigned courses.
- Developing EFL prospective teachers' pedagogical performance via blended learning requires more investigation.

- Blended learning design and delivery should be an integral part or a core component of the TEFL courses assigned to EFL prospective teachers.
- Effective implementation of blended learning needs a great deal of care and attention because blended learning in itself does not guarantee efficient or effective learning and teaching.
- More training sessions on blended learning design and delivery are required to sustain professional development among faculty members.
- Faculty members should share their ideas and experiences on blended learning via focus group technique.
- More insights into the factors and approaches which can improve connections between the virtual and physical elements of blended courses within universities context are urgently needed.

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