

BLENDED LEARNING IN HIGHER EDUCATION: A REVIEW OF THE LITERATURE

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Abstract

The rapid development of technological innovations in higher education has led institutions to turn from traditional face to face classes to blended courses. This article reviews the theoretical and empirical existing studies on blended learning in higher education. First, the definition of blended learning is discussed. Then, the advantages of using blended courses in learning process, the students' perception of blended learning, and some recommendations for instructional designers are highlighted.

Introduction

In recent years, there has been an increasing interest in using technology in higher educational settings. The availability of digital learning technologies, like internet, has led institutions to integrate computer-mediated instructional elements into traditional face to face learning methodologies. The term Blended Learning has obtained popularity in higher education. The American Society for Training and Development recognized blended learning as one of the top trends in education system (Rooney, 2003). Some scholars such as Garrison and Kanuka (2004) and McCombs and Vakili (2005) claimed that blended learning could be more effective than any other types of learning in higher education.

This paper is the result of an extensive literature review on blended learning which attempts to provide useful information for educators and instructional designers to develop the effective instructional methodologies, such as blended format of instruction, with greater certainty. Finally, it provides recommendations regarding to the implementation of blended learning.

Blended Learning

Although blended learning has become popular in higher education, there is still a bit of uncertainty about its meaning. According to Sharpe, Benfield, Roberts, and Francis (2006), even though blended learning is being utilized for about 20 years, its definition has been changed constantly during this period of time. Graham, Allen, and Ure (2003) stated the three most prevalent definitions for blended learning as follows: 1) blended learning: the combination of instructional modalities (delivery media) (Bersin and Associates, 2003; Thomson, 2002), 2) blended learning: the combination of instructional methods (Driscoll, 2002; Rossett, 2002), and 3) blended learning: the combination of online and face-to-face instruction (Rooney, 2003; Sands, 2002; Ward & LaBranche, 2003; Neumeier, 2005).

The first definition refers to the combination of media and tools which are used in an e-learning environment. In this kind of learning, no face to face classes happen. The interaction between student and teacher is through utilizing technologies such as email. The second definition of blended learning refers to the combination of pedagogic methods of instruction (like constructivism, behaviorism, cognitivism) to provide effective learning outcomes. According to Sharma (2010), a course which integrates the approaches of transmission and constructivist such as one including the elements of 'a present-practice-produce methodology as well as task-based learning' could be placed in this category. Both of these two definitions explain blended learning so broadly. Graham (2006) rejected the first two definitions of blended learning. He believed that these two definitions weaken the real meaning of blended learning. Finally, the third and the most common and acceptable definition of blended learning relates to the combination of online and traditional face to face instruction. Neumeier (2005) argued that blended learning is the combination of face to face and computer assisted learning which aims to provide the most effective combination of two modes of learning for individuals. This view is supported by Garrison and Kanuka (2004) who claim that "blended learning is an integration of face-to-face and online learning experiences – not a layering of one on top of the other" (p. 99). Hence, it is essential to distinguish blended learning from enhanced face to face learning or online supported learning. Those cases need constant face to face interaction between student-student and student-

teacher in which modern technology such as internet could be included. In comparison, blended learning could provide face to face learning within virtual learning environment both synchronously and asynchronously. In blended format of instruction, the amount of face to face contact between student-student and student-teacher is less than in enhanced face to face learning. Osguthorpe and Graham (2003) identified that the most prevalent type of blended learning model is to implement part of the course in class and part of it online. Based on their perspectives, there are three types of blended environments (Figure 1). However, there are three elements which should be considered combining together in a blended course: a) online and face to face learning activities, b) online and face to face students, and c) online and face to face instructors (Osguthorpe and Graham, 2003).

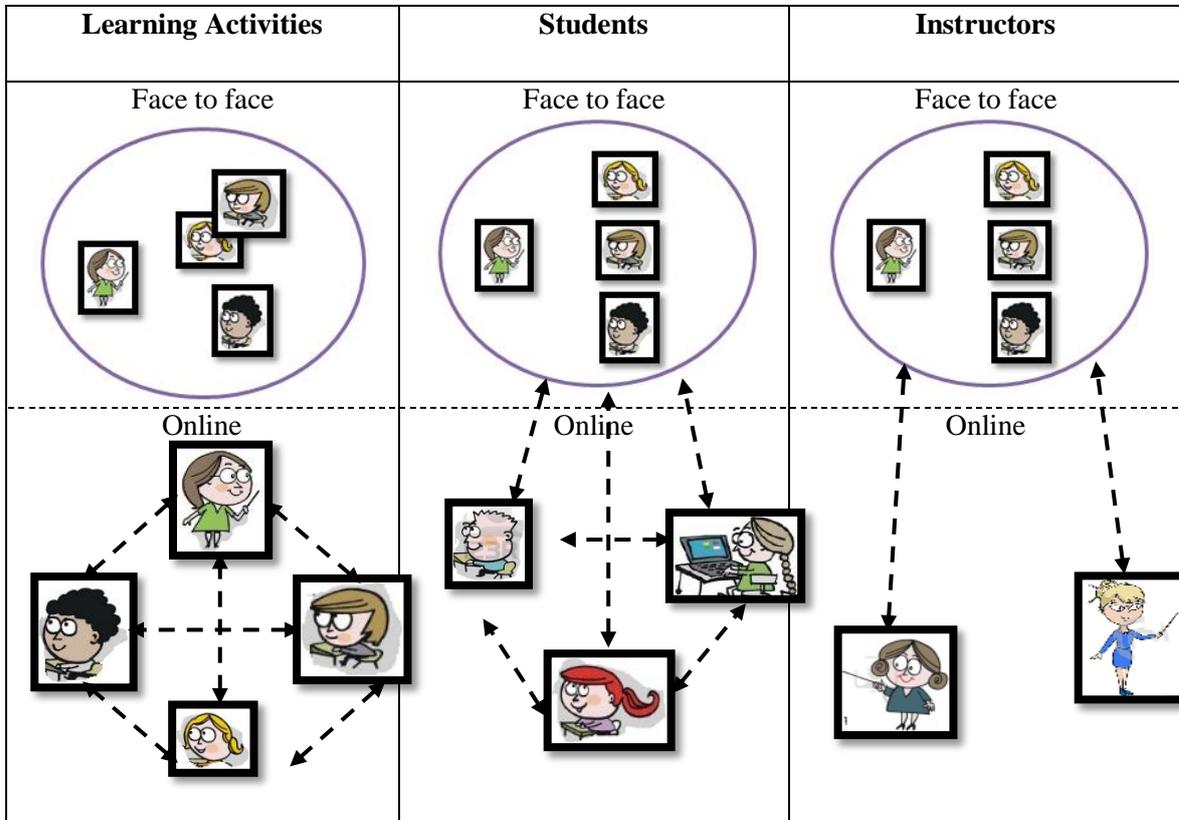


Figure 1 Three types of Blended learning Environments

The above figure shows the three types of blended learning environment which constitutes two main parts. The top section presents the interactions happen in face to face class and the bottom section indicates the interactions occur in online environment. Moreover, the arrows present the interactions which connect face to face and online students. The first model of blended learning environment includes the same students in both online and face to face activities. The second model includes students of both online and face to face classes who have the same course and the online students have interactions with student in face to face classrooms. The last model contains face to face students who have interactions with multiple distance teachers. Based on what Allen, Seaman, and Garrett (2007) stated regarding blended learning, the content delivery in this type of instruction should be between 30% and 79% online and the rest in traditional face to face classrooms. However, the ratio of content delivered in online and face to face instruction will vary for each course. According to Osguthorpe and Graham (2003), the significant factor in providing a blended format of instruction is to make certain that it includes the strengths of both modes of learning environments.

Advantages of Blended Learning

Some scholars such as Gould (2003) and Akkoyunlu and Soylu (2006) claimed that through utilizing blended learning individuals can benefit from the advantages of both traditional face to face learning and online learning. Several advantages of blended learning settings have been stated by researchers. Allowing expanded access to course material, developing the quality of education, potentially decreasing time to graduate, providing opportunities for learners which address their tendency toward technology and affordances to track student progress are among the advantages of blended learning (Ross and Gage, 2005). As reported by Azizan (2010), enhancing social interaction, communication and collaboration, offering flexibility and efficiency, optimizing the learning program development are some of the benefits of blended learning. Osguthorpe and Graham (2003) mentioned some reasons which can make blended learning beneficial:

- 1) Pedagogical richness: blended learning can help educators and the faculties to change the way they use time of class and help learners to master the content more effectively.
- 2) Access to knowledge: through using blended approaches, the accessibility to information for students could be increased. In this case, students are capable of viewing a set of resources instead of just one example which is the common practice of textbooks.
- 3) Social interaction: blended learning environments provide situations for students and teachers to share their questions, comments, and insights both in class and online.
- 4) Personal agency: blended learning help students to develop their self-directedness in their learning process.
- 5) Cost-effectiveness: blended learning offers the possibility of cost reducing for institutions. Through reducing the time of face to face classes and replacing it with online learning, additional tuition-paying students can enter the institutions.
- 6) Ease of revision: since most of the blended learning approaches are developed by teachers, the online resources are relatively simple, easy to change, and do not need complicated programming.

Based on literature on blended courses, some results were found regarding to the effectiveness of blended design on individuals' learning. In a study by Dzubian, Hartman, and Moskal (2004), which compared the face-to-face courses with fully online and blended courses over three years and seven semesters at the University of Central Florida, 93.3% of the students received an A, B, or C in blended format courses while 91.3% of the students obtained A, B, or C in fully online courses and in face-to-face traditional classes 91.6% of the students obtained the grades through this method. In similar studies by Martyn (2003), Vaughan (2007), and McFarlin (2008), students achieved higher grades in blended design classes than students in fully online or face to face classes. Moreover, Garnham and Kaleta (2002) found that learners in blended learning courses had higher retention rates than students in fully online courses. This view is supported by Vaughan (2007) who reported that in blended courses, students retained more information than completely face to face classes.

With regard to the effectiveness of blended learning, Lewis (2002) stated that online discussion activities which cause the higher frequency of participation could increase the deep learning process and then develop learning outcomes of students. Through face to face interactive activities, students can engage with other students in classes which are predicted to help them to develop a strong learning community out of the classroom (Collopy and Arnold, 2009; McCarthy, 2010; Smyth, Houghton, Cooney, and Casey, 2012). In a study by Rovai and Jordan (2004) on graduate students, they found that blended courses provide a stronger sense of community among students than fully traditional or online courses. Kirkman, Rosen, Tesluk, and Gibson (2004) considered that a blended learning approach could increase the effectiveness of teamwork among students. Researchers such as So and Brush (2008), found positive relationship between collaborative learning and students' success in a blended course. Blended learning motivates students to form groups in order to benefit from peer support. Students' access to asynchronous online forums provides them the opportunity to make their ideas before posting them (Alim, 2007). In addition, having constant access to teachers has been recognized as a significant element in students' success with blended learning (Martinez-Caro and Campuzano-Bolarin, 2011).

According to Osguthorpe and Graham (2003), the last aim of any instructional methodology is to develop the students' learning process. Hence, it is necessary to construct the educational experience more learner-centered. Institutions of higher education try to find strategies to improve the learner-centered learning (Kember, 2009). Dalsgaard and Godsk (2007) maintained that blended learning method has the potential to provide a learner-centered environment for students. As argued by Moore and Gilmartin (2010), blended learning is more than just combination of traditional face to face and online instruction. It should stimulate more active learning. Being active learners, students can gain a greater level of engagement with opinions in classes and improve their degrees of autonomy. A recent mixed method study by Snodin (2013) on 28 university students concluded that students became more independent, more confident, and more experienced in language learning through implementing a blended course design. In another study, Sanprasert (2010) found that blended learning instruction enhanced learners' autonomy on four aspects: behavior, strategy, perception, and interdependence.

Paying attention to the advantages of blended learning, it should be mentioned that the inclusion of face to face learning within blended courses only does not provide more effective learning experiences for students. Teachers and instructional designers need to conduct specific practices to improve the blended courses. Regardless of advantages mentioned above, there are some disadvantages with blended learning such as decreasing of control and monitoring by teachers on students who are not completely self-regulated (Conacher, Taalas, Vogel, Chambers, Conacher, and Littlemore, 2004). According to Trinder, Gonzalez-Pueyo, Foz, Jaime, and Luzon (2009), these kinds of students prefer traditional face to face classes and ask for more support. Another disadvantage is related to students who are not skilful computer users which provide negative feeling in them toward blended learning (Burguess, 2003). Hence, teachers should try to apply the most effective structure of blended learning in their classes which provide the needs of all students.

Students' Perception of Blended Learning

Since blended learning produces an interesting center of attention for research, some researchers became motivated to investigate the students' attitudes, experiences, and perceptions of blended learning instruction. Recognizing students' perception of particular blended learning experiences can produce useful information for designing and implementing more efficient blended courses.

The main findings showed high student satisfaction with blended learning courses (Salamonson and Lantz, 2005). In Woods, Badzinski, and Baker's (2007) study, students perceived web-based instruction in a blended learning environment as increasing the quality and quantity of class discussion, developing a sense of connectedness among students and instructor, and contributing to their enjoyment and the effectiveness of the course.

In the area of language skills, students demonstrated positive perceptions toward the usefulness of blended learning, particularly in the development of speaking skills (Ibrahim and Yusoff, 2012), in the area of grammar practice (Ayres, 2002), reading comprehension (Tsai and Talley, 2013), listening (Ramírez Verdugo & Alonso Belmonte, 2007), and writing (Ferriman, 2013). As an example of language skills' development through blended learning, Yang (2012) reported that students' reading proficiency improved after instruction. The students mentioned the two following factors of blended learning which help them to develop their reading skill: online reading activities which allowed them to practice what they had learned in the classroom without time limitation, social interaction with peers which enabled them to discuss their reading difficulties and get individual feedback.

Owston, York, and Murtha (2013) conducted a study on 577 university students in order to assess the perception of students in four significant areas such as: the overall satisfaction with blended learning, convenience afforded by blended learning, sense of engagement in their blended course, and views on learning outcomes. The results revealed a strong relationship between perception of students and their grades. In contrast to low achievers, high achieving students were more satisfied with blended course and also preferred it over the completely traditional face to face or online courses. They suggested blended learning as more convenient, more engaging

which help them to learn the course contents better than their face to face classes. The researchers argued that low achieving students may not be capable of dealing with blended learning successfully as high achieving classmates and it should be considered by institutions when enrolling students in blended courses.

However, students' satisfaction with blended learning may be influenced by the preferred learning styles of students (Mitchell and Forer, 2010) or the individual differences relating to the learning needs of students (Richardson and Turner, 2000). Hence, according to Holley and Oliver (2010), the students' perceptions and experiences of learning and their level of proficiency with technology were found to be related to the decreased risk of failure.

Recommendations for Teachers and Instructional Designers

Researchers suggested some instructional design recommendations for blended courses which can provide useful information for both teachers and instructional designers. With respect to the structure of online and face to face component of blended learning, El Mansour and Mupinga (2007) stated that instruction in blended learning format happens both in classrooms and online in which the online section is the extension of traditional face to face classroom learning. Blended courses can include any ratio of face to face and online learning (Rovai and Jordan, 2004). They claimed that best practice of blended instruction model containing the initial face to face meeting, weekly online assignments and asynchronous discussions, and a final face to face meeting. The first face to face meeting provides a sense of community among the students (Garrison and Kanuka, 2004). Asynchronous discussions can make connections to the prior learning of students in the face to face classroom (Brookfield and Preskill, 2005).

Blended learning is the effective combination of face to face traditional instruction and online computer mediated learning, as argued by Garrison and Kanuka (2004), which means that this method of instruction would not be successful by just adding one onto the existing medium conveniently. In order to obtain this goal, researchers such as Gulbahar and Madran (2009), recommended that teachers and instructional designers should make the decision to transfer the chosen content to the online environment and how to present it. The authors reported that creating these kinds of web documents needs the technical competence.

From the perspective of structure of communication in blended learning, researchers suggested the use of asynchronous discussion forums in the section of online learning (Rovai and Jordan, 2004; Garrison and Kanuka, 2004). Moreover, because of the students' tendency to attend face to face classes, synchronous discussions are also recommended (Alim, 2007). In a study by Dietz-Uhler and Bishop-Clark (2001), students perceived the traditional face to face discussions as more beneficial before using the online discussion forums. Additionally, researchers such as Aspden and Helm (2004) investigated asynchronous online forums as a tool for discussing the difficult subjects. In this environment, students can understand topics in their own pace which leads to their autonomy.

Another recommendation for instructional designers in blended courses is related to course evaluation. According to Delfino, Manca, and Persico (2005), the type of course evaluations utilized for blended learning approach should be well-defined to the blended courses in order to achieve the advantages of blended structure.

Conclusion

Nowadays, technological innovations which have become an integral part of teaching and learning process create more effective learning experience, more flexibility, and more access for individuals. Blended learning as a combination of face to face traditional learning and computer mediated activities gains popularity in higher education. This article reviewed the previous studies in the area of blended learning in university settings to promote the understanding of blended learning. There is a need for more academic research which supports the effective implementation of transformative blended learning. According to Ross and Gage (2005), the future learning system will be considered the fact that how to blend face to face and computer mediated instruction effectively instead of what to blend. In order to implement effective blended courses which take advantages of both face to face and online environments, it is necessary for teachers and instructional designers to look for the best practices of instructional strategies.

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