

Perspectives on Blended Learning in Higher Education

NORMAN VAUGHAN

The University of Calgary, Alberta Canada
nvaughan@ucalgary.ca

This article explores the benefits and challenges of blended learning in higher education from the perspective of students, faculty, and administration that have had direct experience with this form of course delivery. Students indicate that a blended learning model provides them with greater time flexibility and improved learning outcomes but that initially they encounter issues around time management, taking greater responsibility for their own learning, and using sophisticated technologies. Faculty suggest that blended courses create enhanced opportunities for teacher-student interaction, increased student engagement in learning, added flexibility in the teaching and learning environment, and opportunities for continuous improvement. They state that the challenges faced in developing such a course include a lack of time, support and resources for course redesign, acquiring new teaching and technology skills, plus the risks associated with delivering a course in a blended format. From an administrative perspective, blended learning presents the opportunity to enhance an institution's reputation, expand access to an institution's educational offerings, and reduce operating costs. The challenges consist of aligning blended learning with institutional goals and priorities, resistance to organizational change and lack of organizational structure and experience with collaboration and partnerships.

The idea of blending different learning experiences has been in existence ever since humans started thinking about teaching (Williams, 2003). What has recently brought this term into the limelight is the infusion of web-based technologies into the learning and teaching process (Clark, 2003). These technologies have created new opportunities for students to interact with their peers, faculty, and content, inside and outside of the classroom. The

intent of this article is to explore the concept of blended learning from a student, faculty, and administrative perspective in higher education.

Recently, blended learning has been defined as the combination of face-to-face and online learning (Williams, 2002). Ron Bleed, the Vice Chancellor of Information Technologies at Maricopa College, argued that this is not a sufficient definition for blended learning as it simply implies “bolting” technology onto a traditional course, using technology as an add-on to teach a difficult concept or adding supplemental information. He suggested that instead, blended learning should be viewed as an opportunity to redesign the way that courses are developed, scheduled, and delivered in higher education through a combination of physical and virtual instruction, “bricks and clicks” (Blead, 2001). This sentiment is echoed at the University of Calgary where blended learning is considered a “blending” of traditional teaching approaches (i.e., face-to-face classroom learning activities) and learning technologies (i.e., Internet information and communication technology), resulting in a reduction of “seat time” (Garrison, Kanuka, & Hawes, 2002).

In higher education, this definition of blended learning is often referred to as a hybrid model. At the University of Wisconsin in Milwaukee, hybrids are courses in which a significant portion of the learning activities have been moved online, and time traditionally spent in the classroom is reduced but not eliminated. The goal of these hybrid courses is to join the best features of in-class teaching with the best features of online learning to promote active, self-directed learning opportunities for students with added flexibility (Garnham & Kaleta, 2002). A recent survey of e-learning activity found that 80% of all higher education institutions and 93% of doctoral institutions offer hybrid or blended learning courses (Arabasz, Boggs, & Baker, 2003, p. 2).

Dziuban, Hartman, and Moskal (2004) stressed that these types of blended/hybrid courses are not traditional “distance education” courses as they are not offered entirely online or at a distance. Also, they are not simply a traditional class with a supplemental web site since the time spent online replaces some of the classroom time. In addition, this type of blended learning is not just about transferring information to the Web but instead involves extensive course redesign.

CHARACTERISTICS OF A BLENDED LEARNING COURSE

The model of blended learning that emphasizes active learning and a reduction of classroom time, is based on the concept of hybridization, the bringing together of two dissimilar parts to produce a third result. In the case of an effective blended learning course, these two dissimilar parts are the online and face-to-face classroom components (McCray, 2000). When they are successfully combined, the potential result is an educational environment highly conducive to student learning.

Since this type of blended course combines face-to-face and computer based learning opportunities, teachers are able to use a variety of instructional techniques. Computer-based technologies can be used to selectively present case studies, tutorials, self-testing exercises, simulations, or other online work in place of some lecture or lab material. There are those who suggest that engaging students in these types of online learning activities also changes the nature of the in-class sessions (Meyer, 2003). As a result, the focus of the classroom shifts from a presentational format (i.e., lecturing and information dissemination) to one of active learning (i.e., discussion and debate). Dodge (2001) stated that this form of active learning “involves putting our students in situations which compel them to read, speak, listen, think deeply, and write” (p. 6).

There is not a set formula for the reduction of class time or the use of technologies within a blended learning course. Variations exist due to the nature of the course content and the intentions of the teacher responsible for the course (Dziuban, Hartman, Moskal, Sorge, & Truman, 2004). In some blended courses, the time for each class session is reduced or one class per week is eliminated while in others, in-class sessions occur only every second week or at certain points throughout the semester.

This reduction in class time has not resulted in high drop rates, which has been at times a criticism of completely online courses (Carr, 2000). In fact, longitudinal studies of course withdrawal rates at the University of Central Florida indicate that blended courses have lower drop out rates than do fully online courses (Dziuban, Hartman, Juge, Moskal & Sorg, 2005). Levine and Wake (2000) suggested that these lower withdrawal rates are due to the support structure within the classroom (i.e., face-to-face accountability). These in-person sessions also help establish the relationship between the teacher and the students and reinforce the expectations of the online learning components (McCracken & Dobson, in press). King (2001) added that: “The face-to-face classroom integration of online conferencing offers a distinct advantage to distance education delivery in that the two formats-online and in person-can be used in a complementary manner to allow fuller expression, development, and learning (p. 12).

Students, faculty and administrator groups who have experience blended learning courses and programs, within higher educational institutions, each possess their own unique perspective. The next section of this article presents each of these points of view.

HIGHER EDUCATION PERSPECTIVES ON BLENDED LEARNING

In a higher education context, the perspectives of students, faculty, and administration concerning blended learning vary markedly. This section outlines the benefits and challenges of blended learning, for each of these major constituent groups.

Student Perspective

Benefits. Students who have been involved in blended learning courses are generally very positive about their experiences. At the University of Wisconsin, Milwaukee campus, 80% of the students who took a blended learning course indicated they thought the experience was worthwhile and that they would recommend a course offered in a blended format to others (Aycock, Garnham, & Kaleta, 2002). The principle reason that students gave for their high level of satisfaction was the time flexibility provided by a blended format. Time flexibility was defined as the ability to control the pace of one's learning, the convenience of scheduling coursework, and a decrease in time spent commuting (Garnham & Kaleta, 2002). Table 1 summarizes some of the key findings from the University of Wisconsin student survey.

Time flexibility. The students surveyed liked being able to control the pacing and location of their learning. They liked the blended design because it provided them with the flexibility to work from home. Working from home was perceived much more positively than working from other locations, such as campus computer labs or workplaces (Garnham & Kaleta, 2002).

The blended design also provided students with a much greater range of course scheduling options because of the reduction in face-to-face class time. This convenience of scheduling is increasingly important for the growing number of students who have multiple responsibilities such as work and family commitments.

In addition, a recent study by the National Clearinghouse for Commuter Programs in the United States (1999) stated that 87% of all postsecondary students in the United States do not live in institution-owned housing on campus and thus commute to get to school. The costs of commuting are steadily increasing as are the challenges of finding an available parking space at higher education institutions.

Table 1

Survey Questions Administered to Students ($n=282$) in Blended Courses at the University of Wisconsin, Milwaukee at the End of the Spring 2001 Semester (Garnham & Kaleta, 2002)

Statement	Agree	Disagree	No opinion
I could control the pace of my own learning.	69%	19%	12%
I could organize my time better.	77%	11%	12%
The time I spent online would better have been spent in class.	16%	67%	17%
There should be more courses like this.	61%	16%	23%

Improved student learning outcomes. Several research studies have demonstrated that blended learning designs, which have been created through a faculty development program, contribute to improved learning outcomes for students (Twigg, 2003a; Dziuban et al., 2005; Garnham & Kaleta, 2002). In the United States, the Pew Foundation has sponsored a study to investigate how large enrollment, introductory courses can be effectively redesigned using a blended format. The program involved 30 institutions and 20 of these institutions reported improved learning outcomes and 10 reported no significant difference (Twigg, 2003b). In addition, 18 of the study institutions demonstrated a decrease in student drop-failure-withdrawal (DFW) rates compared to the face-to-face only sections (out of 24 institutions which measured DFW changes).

The University of Central Florida has been involved in an ongoing evaluation of the Web and web-enhanced courses since the inception of their Distributed Learning Initiative in the fall of 1996 (Dziuban et al., 2004). These evaluation studies indicate that on average, blended learning courses have higher success rates (percentage of students obtaining an A,B, or C) and lower withdrawal rates than their comparable face-to-face courses. The studies also show that student retention in blended courses is better than in totally online courses and equivalent to that of face-to-face courses.

Qualitative research studies at the University of Wisconsin in Milwaukee (Garnham & Kaleta, 2002) also suggested that students learn more in blended courses than they do in comparable traditional class sections. Teachers responsible for the blended sections report that students wrote better papers, performed better on exams, produced higher quality projects, and were capable of more meaningful discussions on course material. Sands (2002) stated that because of the text-based nature of web-based discussion forums and e-mail, blended courses became “de facto writing intensive courses when the teachers work carefully to integrate the online and classroom components” (p. 1). Spika (2002) added that the increased opportunities for self-directed learning in the blended model helped students develop project and time management skills.

Student Challenges

Studies at the University of Central Florida (Dziuban & Moskal, 2001) and the University of Wisconsin, Milwaukee (Garnham & Kaleta, 2002) both indicated that students encountered a number of challenges with blended courses. The four key challenges identified were; the expectation that fewer classes meant less work, inadequate time management skills, problems with accepting responsibility for personal learning, and difficulty with more sophisticated technologies.

Expectations. Students new to blended learning initially equate fewer in-person classes to less coursework. In addition, a number of these students do not perceive time spent in lectures as “work,” but they definitely see time

spent online as work, even if it is time they would have spent in-class in a traditional course (Aycock et al., 2002).

Time management. Time management is a struggle for many undergraduate students. This struggle can become particularly acute in a blended course where online activities are required to be completed between the face-to-face classes.

Responsibility for learning. Many first year undergraduate students, who are away from home for the first time, are in the early stages of “learning how to learn.” The notion of taking responsibility for one’s own learning can be very difficult for students accustomed to being passive learners within a traditional lecture format. Initially, students may be unprepared for the active learning role they must play in a blended course.

Technology. Most technology related problems that students encounter in blended courses usually occur within the first weeks of the semester. These problems are usually related to the procedure for accessing the online component of the course (i.e., web site address and logon information). Problems that persist throughout the semester sometimes involve either downloading large files or accessing more sophisticated web-based applications such as video clips (Aycock et al., 2002).

Faculty Perspective

Benefits. Faculty who have taught blended courses indicate that their teaching experiences were very positive. At the University of Wisconsin, Milwaukee, 100% of the faculty members involved in a blended learning pilot project recommended using this approach to others and planned to teach a blended course again (Aycock et al., 2002). Reasons for this high level of satisfaction included: enhanced interaction with students, increased student engagement in learning, flexibility of the teaching and learning environment and opportunities for continuous improvement.

Enhanced teacher and student interaction. Initially, one of the major concerns expressed by faculty teaching blended courses at the University of Wisconsin was that they would become less connected with their students because of the decrease in face-to-face sessions (Aycock et al., 2002). In contrast, after teaching a blended course, faculty almost universally reported feeling more connected with their students and knowing them better. Faculty teaching blended courses at the University of Central Florida echoed these comments (Dziuban & Moskal, 2001). They indicated that not only did more interaction occur in their blended courses but they thought this interaction was of a higher quality than what they typically see in the face-to-face classroom. Bleed (2001) stressed how important this interaction is for restor-

ing the “human moment in the educational process” (p. 18).

Aycock et al. (2002) suggested that this increased interaction is often fostered by teachers developing new ways to engage their students online and through the creation of online communities. This greater sense of interaction is then transferred to the face-to-face sessions within a blended course. This allows for richer in-class interactions with students in the form of increased class discussions and in-depth exploration of course concepts (Brown, 2001).

Increased student engagement in learning. Faculty who have taught blended courses have observed that students do a better job of writing, learning course material, mastering concepts, and applying what they have learned compared to students in their traditional sections (Aycock et al., 2002). They suggested that this improvement is due to students being more engaged in their learning process. This sentiment is captured in a comment from a faculty member at the University of Wisconsin who teaches blended courses, “My students have done better than I have ever seen; they are motivated, enthused and doing their best work” (Garnham & Kaleta, 2002, p. 3).

More flexible teaching and learning environment. Faculty at the University of Wisconsin indicate that they can accomplish course learning objectives more successfully within a blended course than within a traditional course because of the flexibility of the blended model (Garnham & Kaleta, 2002). The flexibility of time and the ability to use web-based multimedia allow faculty to “develop solutions to course problems and to incorporate new types of learning activities that were not possible in traditional courses” (Aycock et al., 2002, p. 1).

The environment forces continuous improvement. The blended model also allows teachers an ongoing opportunity to experiment with new approaches to learning and new types of educational technology. At the University of Central Florida, learning to use technology was cited as one of the outcomes that faculty liked most about teaching on the Web (Dziuban & Moskal, 2001).

Challenges

From a faculty perspective, the key challenges of teaching in a blended format are: (a) the time commitment, (b) lack of support for course redesign, (c) difficulty in acquiring new teaching and technology skills, and (d) the risk factors associated with this type of course (Voos, 2003; Dziuban & Moskal, 2001; Garnham & Kaleta, 2002).

Time commitment. The increased time commitment involved in a blended course is regarded as the number one challenge by faculty (Dziuban & Moskal, 2001). Johnson (2002) stated that planning and developing a large enrollment, blended course takes two to three times the amount of time required to devel-

op a similar course in a traditional format. Faculty, at the University of Central Florida, who are considered “web veterans,” overwhelmingly indicate that a course with online components requires more time in both the development and weekly administrative duties than a similar course delivered face-to-face (Dziuban & Moskal). Despite this increase in workload, all the faculty members involved in a blended learning pilot program at the University of Wisconsin, Milwaukee stated that they will teach these types of courses again, as they believe their time was wisely invested in improving the learning environment for both students and themselves (Garnham & Kaleta, 2002).

Professional development support. These faculty members also indicated that blended learning is not a “solo” activity. To ensure a successful blended learning experience for students there must be faculty support for course redesign and learning new teaching and technology skills. The course redesign support involves assistance in deciding what course objectives can best be achieved through online learning activities, what can best be accomplished in the classroom and how to integrate these two learning environments (Dziuban et al., 2004). Faculty indicated that they needed to acquire new teaching skills such as how to foster online learning communities, facilitate online discussion forums and address and manage students’ online learning problems (Aycock et al., 2002).

In terms of technology, many faculty initially needed to overcome their own fears and resistance through “hands-on” experience with various tools and applications. In addition, faculty are also challenged to provide “front line” technical support for their students. Faculty at both the University of Central Florida (Dziuban & Moskal, 2001) and the University of Wisconsin, Milwaukee (Aycock et al., 2002) are adamant that to overcome these support issues there must be an institutional professional development program for the development phase of a blended learning course and ongoing institutional support during the initial delivery phase (Voos, 2003).

Risk factors. The major risk factors identified by faculty who have taught blended courses include; fear of losing control over the course, lower student evaluations, and an uneasiness about how this type of learning model fits into the university culture of teaching, research, and service (Dziuban & Moskal, 2001; Voos, 2003).

ADMINISTRATIVE PERSPECTIVE

Benefits

From an administrative perspective, blended learning presents the opportunity: to enhance an institution’s reputation, expand access to an institution’s educational offerings, and reduce operating costs.

Enhanced institutional reputation. The opportunity to enhance an institution's reputation is often linked to improving the quality of the institutional learning environment for students and increasing student and faculty satisfaction (Twigg, 2003b; Garrsion & Anderson, 2003). Heterick and Twigg (2002) have found that blended learning designs can positively impact student learning when thoughtfully applied to support "active learning pedagogies" and increased student "time on task." Voos (2003) suggested that blended designs can enhance student and faculty satisfaction with learning when the design, the training and development, and the systems and support are well organized. Graham Spanier, president of Pennsylvania State University, boldly stated that the ability of blended learning to support the convergence of online and residential instruction is "the single, greatest unrecognized trend in higher education today" (cited in Young, 2002, p. 4). Bleed (2001) is also actively exploring how these types of courses can be used to recombine learning and social experiences within the Maricopa Community College District of Arizona.

Expand access to the institution's educational offerings and increase enrollments. As previously mentioned, blended learning provides increased choice and flexibility for students in the way that courses and entire programs are delivered. Many students are now able to balance family and work commitments with their academic studies as a result of this blended model. Numerous higher educational institutions also hope that this expanded access will translate into increased revenue streams but the results to date have been mixed (Carr, 2001).

Cost reduction strategies. Many in higher education are currently asking the question "How can we best serve our students in today's society in light of increased enrollments and decreased government funding?" (Bates & Poole, 2003, p. 24). Twigg (2003b) suggested that blended learning provides institutions with two principal cost reduction strategies. These options are to either increase student enrollments in courses with little or no change in course expenditures or to keep student enrollments the same while reducing the instructional resource costs for the course.

In the Pew course redesign study, coordinated by Twigg (2003b), the majority of the 30 institutions involved in the study, selected the second option. They attempted to keep the same student enrollment numbers and reduce costs while maintaining quality. The predominant technique used to accomplish this objective was to reduce the time faculty and other instructional personnel spent on large enrollment courses by transferring a number of tasks to technology. This was achieved through the use of online course management systems, online automated assessments, online tutorials, shared resources, and staffing substitutions. These strategies are outlined in Table 2 and they allowed the study institutions to reduce course costs by about 40% on average, with a range of 20 to 84% (Twigg, 2003a).

Table 2
Strategies for Using Technology to Reduce Costs in Blended Courses
 (Twigg, 2003b)

Technique	Description
Course management systems	The course management systems played a central role in the majority of redesign projects. These systems reduced (and in some cases eliminated) the amount of time that faculty spent on non-academic tasks such as grade calculations, photocopying handouts, posting changes to the course schedule, sending out special announcements and updating course material for subsequent semesters.
Automated assessments	Over half of the projects used automated grading of exercises, quizzes and tests. This dramatically reduced the amount of time faculty and/or teaching assistants spent on preparing quizzes as well as grading, recording and posting results.
Tutorials	Online tutorials were used in a number of the course redesign projects. Faculty involved with these projects reported that students came to the lectures and the face-to-face tutorials more prepared to ask good questions. In addition, faculty and teaching assistants no longer had to present content in-class which was already available online. This created more time for discussion and questions within the face-to-face sessions
Shared resources	The use of shared resources across multiple sections of the same course allowed for a significant savings of faculty time. This was usually achieved by having one common general resource Web site for all sections of a particular course.
Staffing substitutions	The substitution of graduate teaching assistants with lower cost undergraduate learning assistants in these blended courses resulted in a substantial cost savings (non-technology).

One of the greatest cost savings, currently attributed to blended learning, is the reduction in space requirements. Prior to the deployment of blended course sections, the shortage of classroom space was so acute at the University of Central Florida (UCF), that the university had to rent space at a nearby multiplex theatre for classrooms during the day (Young, 2002). Through the deployment of blended courses, with a significant reduction in class time, the University was able to schedule two or three course sections in the same classroom where only one could be scheduled before. This then allowed the UCF to reduce the amount of rented space through the more efficient utilization of existing classrooms. Bleed (2001) stated that reducing space costs may be the only way colleges and universities in the United States can keep up with the continuing population growth and the demands for life long learning.

Challenges

There is an abundance of literature describing the challenges that higher institutions face when attempting to incorporate technology into the teach-

ing and learning environment (Cho & Berge, 2002; Twigg, 1999; Barone, 2001). The following issues can be particularly daunting when institutions attempt to adopt blended learning.

Alignment with institutional goals and priorities. Twigg (1999) suggested that blended learning can only be effectively implemented if an institution is committed to improving the quality of the student learning experience in a cost effective manner. This implies that technology is viewed as a means of achieving this strategic goal and the institution is committed to fully integrating computing into the campus culture. Barone (2001) added that this goal can only be realized if an institution's leaders demonstrate affirmative action through proper resource allocation and necessary policy revision. The course redesign study coordinated by Twigg (2003b) demonstrated that this strategic alignment can be a formidable challenge. Senior administrators in many of the study institutions were unable to create policy changes to increase enrollments in the blended sections and department chairs were unable to reduce seat time in these sections to the projected percentages. Resistance to organizational change was given as one of the main obstacles.

Resistance to organizational change. Resistance to organizational change in higher education is a well documented phenomenon (Twigg, 1999; Barone, 2001). Change in postsecondary education is often compared to the "turning of the Titanic." Institutional bureaucracy and inertia can prevent changes in the curriculum, course structures, and timetables, which are critical to the success of blended learning.

Organizational structure and experience with collaboration and partnerships. Lack of a collaborative organizational structure and internal partnerships can pose a formidable barrier to a blended learning initiative (Dziuban et al., 2005). Decisions must be made in a consultative fashion and communicated widely for a blended learning model to be successful (Barone, 2001). There must be significant cooperation through partnerships with students, faculty, instructional technology staff, faculty developers, and administrators to succeed (Twigg, 1999). In addition, there needs to be a commitment to assessing and communicating the impact of blended learning on student achievement, success, and satisfaction (Barone).

CONCLUSION

Although blended learning courses are associated with improved student learning outcomes and cost savings, realizing these learning designs across the institution come with significant challenges. An institution must create the necessary policy, planning, resources, scheduling, and support systems to ensure that blended learning initiatives are successful (Garrison & Kanu-

ka, 2004). A policy framework should be developed, which explicitly states how blended learning supports the vision, values, and principles of the institution. Related to this document should be a set of strategic and operational plans. The strategic planning involves the (a) identification of needs, goals, and objectives; (b) potential costs; and (c) available resources. With respect to blended learning, operational planning entails “attending to the non-instructional components including the following: (a) promotional and advertising strategies; (b) creating relationships for shared resources (e.g., registration, fees); (c) managing technology; and (d) creating an effective assessment process” (Garrison & Kanuka, p. 101).

The scheduling of courses in higher education institutions is already a challenge and considerable thought must be given to the development of a scheduling format for blended courses, which allows for meaningful and flexible reduction of classroom time. As previously indicated, support for students and faculty is a key component of blended learning. Technology training and support should be available for students and professional development support for the faculty. Voos (2003) strongly emphasized that a faculty development program is central to the success of an institution’s blended learning initiative. The program should include opportunities for faculty to learn how to redesign their courses, teach well online, and effectively use technology (Garnham & Kaleta, 2002). Without adequate preparation, most faculty will simply replicate their traditional class sections and the benefits, resulting from a blended course, will not be achieved. Hartman and Truman-Davis (2001) added that to “achieve consistency, quality and scalability, it is necessary to establish a central service coordination unit with sufficient resources to develop and apply standards and support the expanding volume of work that will result from increased faculty demand” (p. 55).

In closing, it needs to be emphasized that transformational leadership needs to be exhibited by senior administration to fully realize the benefits and overcome the challenges associated with blended learning in higher education institutions (Garrison, 2004). This leadership consists of three interrelated core elements; vision, interpersonal skills, and courage. The vision for blended learning must be in the best interests of the institution and truly shared amongst the constituent members. The senior administration team must possess the interpersonal skills to work collaboratively with others. This involves the ability to share ideas but also the willingness to listen to contrary views. Finally, these leaders must have the courage to “stay the course” and make the necessary hard decisions (i.e., creating new policies and procedures while discontinuing existing ones) required for the development and growth of blended learning opportunities in higher education institutions.

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