ADOPTING A BLENDED LEARNING APPROACH: CHALLENGES ENCOUNTERED AND LESSONS LEARNED IN AN ACTION RESEARCH STUDY

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ABSTRACT

Adopting a new teaching approach is often a daunting task especially if one is an early adopter in a limited-resource environment. This article describes the challenges encountered and the strategies used in pilot testing a blended instructional method in a large size class within the college of education at a medium-sized university. The main reasons for using the hybrid method were to improve student participation, preparation, and understanding as well as to encourage a more active rather than passive approach to learning which can be particularly difficult in large-sized, undergraduate courses. An action research study was used to document the adoption process and to measure the impact of the blended approach. The results of the action research study and the issues and barriers encountered when implementing a new instructional strategy are discussed as well as ideas for motivating and helping faculty when there is limited funding, training, and support available.

KEYWORDS

Blended learning, hybrid instruction, action research, early adoption, educational change, limited resources

I. BACKGROUND OF THE STUDY

During the past two years, the first author of this article has been exploring ways to increase student participation, engagement, and interactivity in her introductory, undergraduate educational psychology course. This course, part of the professional education core for teacher preparation, provides an overview of many important theories and research in educational psychology with an emphasis on application in the classroom setting. In recent years, as the requirements for teacher certification have increased, it became necessary to add even more content areas to an already information-heavy course.

Besides the added curricular demands, the size of the classes has also increased from 30 to 60 students in some sections. As a result, lectures became more predominant, which is typical in larger classes. There was less time and it was more difficult logistically to provide classroom activities that required students to actively engage in the learning process. The author found herself becoming the "sage on the stage" rather than a facilitator of learning. What was even more troubling was that she was not modeling one of the major objectives of the course which was to introduce future teachers to the elements of effective instruction.

Because of these instructional limitations with larger-sized classes, more students were coming to class less prepared and less willing to participate. They seemed content to just sit, passively absorbing the information. When questions were asked, few students volunteered to respond and it was often the same ones. Test performance was below average for a number of the students. Frequent comments from

students on course evaluations were too many lectures and too much material to learn. For these reasons the decision was made to investigate alternative approaches to instructional delivery that would promote more active student involvement in the learning process and more effective learning of the course material.

The author was introduced to hybrid or blended learning through a chance conversation with another faculty member who was using the approach in a health course. Blended or hybrid instruction uses a combination of face-to-face and online learning activities and has been found to increase understanding, interaction, and involvement in the learning process [1, 2]. Blended instruction is a growing teaching approach in all types of higher education institutions and Graham Spanier, Penn State's president, stated that blended learning is "the single-greatest unrecognized trend in higher education today" [3].

The author was already using the university's course management system to post class materials and grades and to collect assignments, so she was somewhat technologically savvy. She was not interested in teaching a totally online course, but felt that a hybrid approach might accomplish her instructional objectives. According to Kim and Bonk [4], by the end of the decade, the vast majority of courses in higher education will have some web components incorporated within traditional instruction. The blended approach is likely to become the "predominant teaching model of the future" in K-12 education as well [5]. Many faculty who object to distance education see the advantages of a blended approach that incorporates "the best of both worlds", offering the convenience and flexibility of online courses without losing face-to-face faculty-to-student interaction in the classroom, as long as both the online and face-to-face instruction follow good pedagogical practices [1, 3].

Online courses, as options for students, were just beginning to be offered by the university and very few instructors were teaching either totally online or using blended instruction. The university's academic computing center provided software training and assistance in using the course management system. However, there was no formal university-wide support for assisting faculty in adopting either online or hybrid courses. Similar to the university, the College of Education (COE) which offers the educational psychology course did not have the resources to provide formal training or support to help faculty restructure courses to a blended delivery format. A few education professors have taken the initiative to incorporate more online components into their courses, but these faculty members were for the most part self-motivated and did not receive any compensation or workload reduction.

COE's Faculty Technology Center provides equipment and technical assistance to education faculty using technology within their courses and has offered informal support to instructors interested in blended learning. With the help of the director of the center, the author decided to try out a blended approach. An action research study was conducted to document the process so that the impact of the blended method could be critically assessed and needed changes made. Since the author was an early adopter, the action research study also provided helpful information to other faculty within the college and university who wanted to use the instructional method in their classes. In addition, the author's experiences adopting blended learning with limited resources could help administrators and faculty in smaller colleges where the level of support for professional and course development is sometimes less than what may be available in larger institutions.

II. REVIEW OF THE LITERATURE

Today's theories of how people learn emphasize the importance of active participation in the learning process rather than passive observation [6]. Active learning requires students and teachers to join into "a dynamic partnership in which they share the responsibility for instruction" [7, p. 29]. According Maznevski [8], active learning improves retention, as well as application of course content, and listening to peers exposes students to different viewpoints and ways of interpreting and applying course material.

Class size is one variable that can negatively affect active participation and interaction. Weaver and Qi [9] described how in larger classrooms teachers are forced into more lecture-based teaching where students have less opportunity to participate making it easier for students to remain anonymous. In

lecture-style classrooms, the instructor is often considered a "bank of knowledge" from which students withdraw information rather than contribute [10]. In most classrooms, students often will disengage from the learning process and may only appear to be paying attention [11].

Recently, more and more college faculty are exploring the use of technology-mediated teaching as a way to promote student learning and engagement. Hybrid or blended courses which combine online with traditional delivery of instruction can be better suited to classroom participation than just online methods or lectures [12]. They can be effectively used to improve learning in larger-sized classes [13, 14, 15].

A. Definition of Blended Learning.

There are many definitions of blended or hybrid learning. Graham [16] defined blended learning systems as a combination of face-to-face with computer-mediated instruction. Ross and Gage [17] differentiated between web and technology-enhanced courses that incorporate online supplementary components within traditional courses without reducing face-to-face time and hybrid courses where in-class time is replaced by online course work. Picciano [18] described blended learning as a method of instruction that combines online with face-to-face learning activities that are integrated in a "planned, pedagogically valuable" way and where some of the face-to-face time is replaced by online activities. According to Allen, Seaman, and Garrett [19] a blended course has anywhere between 30 to 79% of online content delivery with the remaining content delivered in a non-web based method such as face-to-face instruction.

Just as there are many definitions of blended learning, there are many reasons why blended learning is becoming increasingly popular. Institutions of higher education are using blended instruction to improve pedagogy, increase access to and the flexibility of learning environments, and improve cost-effectiveness, but the most common reason is to improve pedagogical practices [16, 20]. Major reasons for faculty adoption of the blended technique are to increase student engagement and involvement in the learning process [20, 21] and to improve student learning [22, 23, 24]. Student-reported satisfaction with blended instruction has generally been very positive [24] with convenience and controlling the pace of learning considered to be the major benefits of the blended approach [23, 25].

B. Design and Implementation of Blended Learning.

As hybrid courses become more popular, research is accumulating on the positive outcomes from using the approach, but less has been published about how faculty design and teach blended courses [21]. According to Smart and Cappel [26], what is known about effective learning should be the "starting point" for designing blended instruction. They emphasize the importance of selecting technology tools that make learning activities more authentic, enable students to become more active in their learning, and require students to interact with others and engage in critical or deeper-level thinking.

Shea [27] in his discussion of a conceptual framework for blended learning analyzed how this instructional delivery approach must reflect the four conditions of adult learning described in the "How People Learn" (HPL) model developed by Bransford, Brown, and Cocking in 2000. These conditions are "learner-centeredness" or meeting the goals and interests of the learner; "knowledge-centeredness" or using active, relevant learning experiences; "assessment-centeredness" or finding ways to effectively measure learning so that formative and constructive feedback can be provided; and "community-centeredness" or creating a sense of connectedness and collaboration among learners.

Martyn [2] and Lin [1] found that good hybrid instruction can incorporate the "Seven Principles of Good Practice in Undergraduate Education" developed by Chickering and Ehrmann in 1987 and updated for the digital age in 1996. These seven principles are promoting interaction between students and faculty, enhancing reciprocity and cooperation among students, promoting active learning, providing prompt feedback, increasing time on task, setting high expectations, and recognizing diversity in learning.

Finding the right blend of what goes online and what is taught face-to-face is an important part of hybrid instructional design [21]. Effective integration of online and face-to-face learning creates environments that are "highly conducive to student learning" [24]. Aycock, Garnham and Kaleta [28] found that

students did not like hybrid instruction if they perceived a poor integration between the face-to-face and the online components or if they felt the online components merely increased the course workload making it a "course and a half"[21].

There are several ways that faculty can blend their online and face-to-face instruction. Graham [16] divided blends into three different categories: enabling blends that focus on convenience and accessibility, enhancing blends that augment but do not drastically change the pedagogical style, and transforming blends that change the instructional delivery to an active learning model. According to Graham, transforming blends require students to actively construct knowledge and engage in "…intellectual activity that was not practically possible without the technology" [16, p.13].

One common type of blend used by faculty requires students to complete activities online prior to the face-to-face meetings to ensure that everyone shares a common knowledge base. Then during class time the content can be supplemented and enriched with application and problem solving activities [26]. The face-to-face time can be used to learn the material at a deeper level and link the content to broader topics [29]. Another type of blend involves teaching the course content during class time and allowing students to think critically and discuss their views about the material through online activities [28].

When designing a blended course, faculty must not only consider the elements of effective adult learning and find the right blend between online and in-class activities, they must also address some of the student problems encountered when using the approach such as the lack of technology and time management skills necessary for success in a blended format [23]. Tabor [25] reported that students who disliked the hybrid format mentioned problems with finding materials, receiving less instructor feedback, and perceiving the course content to be too advanced for independent learning.

Transforming a traditional course into a blended one is not an easy process and requires faculty to take a different perspective on instructional delivery [17]. Although it may seem simple to do, according to Tabor, even experienced instructors "… struggle with the question of creating balance and harmony between the two formats" [25, p. 48]. Aycock, Garnham and Kaleta [28] in the lessons learned from their hybrid course project at five campuses of the University of Wisconsin state that there is no "standard approach" to a blended course. They recommend to "start small and keep it simple" since re-designing a course into a blended format takes time. One of the major barriers to faculty adoption of blended learning was the increased time commitment necessary to develop and administer this type of course format [23, 24].

Kaleta, Skibba and Joosten [21] described the tasks that faculty must accomplish and the multiple roles that faculty need to play in the course transformation process. The tasks include: re-examining course goals; developing online and face-to-face activities that are integrated and aligned with the goals; finding ways to assess students' understanding and mastery of the course material; and creating ways for students to interact. Faculty must take on pedagogical, social, managerial, and technological roles as they implement the method. Pedagogically, instructors become guides and facilitators of learning rather than "information suppliers". Socially they must develop a "collaborative community of learners". As course managers they are responsible for scheduling activities, determining due dates, and grading assignments, and technologically they set up, maintain, and orient students to the course management system and assist students with technology issues.

C. Institutional Support for Blended Learning.

Ross and Gage [17] believe that the hybrid approach has the best potential for improving student learning, even though hybrid courses do not fit easily into the organizational structure of higher education. Dziuban, Hartman, Juge, Moskal and Sorg [22] cautioned that blended learning must not be regarded as strictly instructional. Successful implementation of a hybrid approach requires that many players in addition to individual faculty members be on board including colleges, departments, support services and infrastructure. "Organizational readiness" is important for successful implementation of blended learning and institutions need to be ready to support online teaching [4, 24].

Preparing faculty to effectively design and administer blended instruction is an important type of support necessary for successful adoption [21]. According to Kim and Bonk [4], faculty training is critical for quality online education. Dukes, Waring, and Koorland [30] found that not every faculty member has the knowledge, skills, and attitudes to teach a technology-based learning course and in many cases do not receive the necessary pedagogical and technical training. They often must seek out assistance on their own and at their own cost. Dukes et al. recommended that not only should universities offer training to faculty, but also provide faculty with the opportunity to experience online instruction first hand and have a peer mentor as they design and implement an online course. Aycock et al. [28] described the adoption of blended learning as a "collegial process" and Chizmar and Williams [31] recommended institutions establish "venues" for faculty to share their experiences with using technology.

In addition to faculty training, giving faculty time to learn new technologies and for course preparation, providing financial support through grants, incentives, and workload reduction, and ensuring the reliability of the technologies used for teaching were also mentioned by faculty as important factors influencing their adoption of new technological approaches to instruction [31, 32, 33].

Research studies have shown that, if designed correctly, blended instruction is an effective learning strategy that can promote student participation, engagement, and interactivity, which supported the author's decision to adopt the method in her education course. What the author found particularly valuable in the literature review was the importance of incorporating the seven principles of good instructional practice when redesigning a traditional course into a blended format, finding the right blend between online and face-to-face instruction, and looking for a faculty mentor to provide guidance and support. An added bonus of using blended learning discovered by the author was that pre-service teachers attending hybrid classes are more likely to use technology as a tool for teaching and learning in their own future classrooms [1]. In implementing the new blended strategy, the author could model effective uses of technology to her teacher candidates.

However, research studies that addressed strategies for adopting blended learning with limited support were difficult to find. The following sections describe the strategies the author used to design and implement the hybrid model and the results of the action research study she conducted. The article concludes by summarizing the challenges encountered, the lessons learned and the future directions for the blended course within the restrictions of a limited-resource environment.

III. DESIGNING THE BLENDED INSTRUCTION FORMAT

As the author began transforming her course into a blended format, several decision points emerged.

Decision #1: How much of the course should be blended?

Prior studies recommended starting small when adopting blended instruction. So the decision was made to pilot test the approach in only one unit and one section of the course.

Decision #2: Which unit should be used for the pilot test?

The unit on human development was selected for the pilot test because it was one of the more conceptually challenging and content-heavy units in the course. The author hypothesized that allowing the students to study the material at their own pace and style would result in increased retention and learning of the content. The author had developed several interesting and interactive learning activities that could be used for the face-to-face sessions.

Decision #3: Which of the three sections of the course would be the experimental group to pilot test the unit?

One of the 60 student sections was randomly selected as the experimental group. The other 60 student section and the 30 student section taught by the instructor were the control groups to see if class size made any difference. The students in the three sections of the course were similar. The majority were traditional students majoring in education. Most of them were sophomores with an approximate 50/50 split between males and females.

Decision #4: How much training and technical and instructional support were needed?

Adopters of blended instruction stressed the importance of training as well as technical and instructional support for successful implementation. Since the university where the author teaches was in the early stages of adopting online teaching there was no formal support in place. The few faculty using either distance or blended instruction were responsible for accessing limited university resources for training, often depending upon colleagues in their department or college.

It was apparent to the author that she needed to take the initiative to find funding for training and equipment. Each year the university awards grants to instructors for professional development. The author applied and was awarded a year-long grant which was used to buy equipment such as a microphone, speakers, and a webcam, and to pay for professional training. Funds were, also, allocated to hire a graduate student to provide technical and research assistance.

Prior to designing the unit, the author signed up to participate in an online workshop on blended instruction, however the workshop was postponed. The author eventually completed the workshop while implementing the unit and was able to make some valuable last minute changes based on this training.

Decision #5: How much time was necessary for designing the unit?

The research recommended allowing at least 6 months for designing a blended course. Even though it requires intensive front-end effort, having the course fully developed ahead of time makes it easier to fine-tune during implementation [25]. The author took about three weeks of intensive work to develop the entire unit. Refinements were made to the unit during implementation as a result of informal observations by the instructor, feedback from the students, and information obtained during the online workshop.

Decision #6: What material/activities should go online vs. face-to-face?

An important decision in designing blended instruction is what to put online and what to do face-to-face. When making this decision, it is essential for the instructor to make sure that the two components are "blended" or "integrated" thus complementing each other. Three online assignments were developed to teach the content on cognitive, personal, and adolescent development. In these assignments, students were given questions to answer requiring information from the textbook and from PowerPoint presentations, video clips, articles, and websites that were posted on Blackboard, the university's course management system. In addition to the online content assignments, students submitted a case study analysis requiring an application of the developmental concepts learned online. They also participated in an online discussion about the case study.

During the face-to face sessions, students were asked to respond to questions about the content to check for their understanding of the online assignments. In addition, activities to promote higher order thinking, such as discussions of research articles and videos, questions requiring personal reflection, comparisons of different developmental theories, and a continuation of the online case study discussion were, also, conducted in class.

Decision #7: How should the blended assignments be graded?

The points assigned to the online assignments were based on the amount of work required for completion and the level of complexity. Since some of the online assignments were subjective, consisting of personal reflections and applications of the material, points were given for thoroughness more than accuracy. Students were given points if they were present in class to do the face-to-face activities. The blended activities for the pilot unit came to about 10% of the total course grade.

Decision #8: How could a community of learners be created?

Research studies stressed the importance of developing a community of learners when using either online or blended instructional approaches. Several methods were used by the author to create this community. The first class assignment was using the discussion board on the course management system to post a personal profile and reply to at least one other class member. The purpose of this assignment was to help

both the students and instructor get to know each other and to give the students practice in using the discussion tool. Another method that was used to build community was dividing the class into groups of four to five students and these groups worked together on several in-class activities. A third technique was the creation of a discussion forum requiring students to post their thoughts about the case study, and to also reply to the response of at least one class member. This exercise was included not only to allow students to interact as a community of learners, but also to build their confidence to discuss the case study further during the face-to-face portion of class.

IV. IMPLEMENTING THE BLENDED UNIT

The unit was implemented starting the third week of the semester. During the first two weeks of the semester, beginning-of-the-year administrative tasks were addressed and the first unit on educational professionalism was presented to the entire class in face-to-face sessions. Right before the launch of the pilot test unit, an orientation to the blended approach and where to find materials on the course website was conducted by the graduate student assistant as well as demonstrations of how to use online tools such as the discussion board. Information about blended instruction and study and time management tips were, also, provided on the website as well as a schedule of when students should be in class, when assignments were due, and who to contact if they had problems.

Class size can often be a barrier for many students when it comes to participation. Many students are fearful of speaking and answering questions when the classes are large. To help reduce this problem, for one class session a week, half of the students were excused from class to work on the online assignments while the other half were in class doing more interactive projects. The groups switched for the second class session of the week. This was done to create a smaller and more comfortable classroom climate in the hope of increasing participation and to make it easier logistically to engage in activities requiring more interaction and higher-order thinking.

Online content assignments were due before the face-to-face session in an attempt ensure the students had been exposed to the basic information needed and came to class prepared to participate in the face-to-face activities. The unit took about three weeks to complete, and other than scheduling changes due to weather cancellations, the implementation of the unit went fairly smoothly.

V. THE ACTION RESEARCH STUDY

According to Parsons and Brown [34], to be an effective educator one must be an "active participant" in the classroom, observing, analyzing, and interpreting information about student learning and then using this information for planning and decision making. Action research is a systematic way of engaging in this reflective process. The action research study of the blended learning pilot test was designed to measure student and instructor perceptions of the hybrid approach so that modifications could be made to the course design before moving to full-scale implementation. The study was also used to provide information and assistance to other faculty and administrators interested in using hybrid learning techniques.

A. Study Procedure

The action research study focused on five areas of the students' experiences during the pilot study: 1) Did the blended approach improve student learning?; 2) Did the blended approach increase students' active involvement in the course and engagement in the course material?; 3) Did the students feel more prepared for in-class activities after learning the content online?; 4) Did the blended approach increase student participation during the face-to-face classes?; and, 5) Did the blended approach increase student interest in the material and overall satisfaction with the course?

To measure these questions four types of data were collected. The same unit exam on development was given to all three sections of the course in order to compare the blended section results with the other two non-blended sections. The unit exam consisted of multiple choice and short answer questions measuring

understanding and application of the topics covered in the development unit. A survey was given to the blended section after the unit was completed to measure student perceptions of how the approach affected their levels of learning, participation, interest, and satisfaction. Informal observations of student behavior during face-to-face sessions and tracking statistics of students' viewing of the course materials on the website were used to determine the level of student participation in the three sections.

B. Study Results

Question #1: Did the blended approach improve student learning?

On the unit test, the blended section had a slightly higher average score (47.46 out of 60) than both the large, non-blended section (44.34) and the small, non-blended section (47.40). These results were promising and showed that students could learn the material on their own online. Their learning did not suffer using a blended approach, and actually was slightly better.

Fifty-six students voluntarily answered the survey. Forty eight percent (48%) of the students were males and 52% were females. The majority indicated that they were "very proficient" in the use of technology, with only 5% claiming that they were "not very proficient". Seventy-five percent (75%) had never taken a blended course.

On the survey, 75% of the students agreed that the blended approach contributed to their learning. Eighty-four percent (84%) felt the online assignments and 77% felt the face-to-face sessions contributed to their learning.

Question #2: Did the blended approach increase students' active involvement in the course and engagement in the course material?

Sixty-four percent (64%) of the students felt more engaged in the course material with the blended format.

Question #3: Did the students feel more prepared for in-class activities after learning the content online.

On the survey 66% of the students reported that they felt more prepared for in-class work using the blended approach.

Question #4: Did the blended approach increase student participation during the face-to-face classes?

Forty-eight percent (48%) of the students perceived that their participation in class increased as a result of the blended format. During informal observations of in-class student participation, the student response rate to questions tended to be higher in the small, non-blended section and lowest in the large, blended class. This was somewhat surprising since it was hypothesized that doing the online content assignments would prepare the students, thus increasing their confidence and willingness to participate in the larger class. During the class sessions when the blended class was divided in half, the student response rate increased which seemed to indicate that class size rather than preparation was more of a factor influencing participation, but no firm conclusions could be made due to the non-rigorous nature of the data collection.

Question #5: Did the blended approach increase student interest in the material and overall satisfaction with the course?

The blended unit helped to promote interest in the course material, with 59% of the students perceiving an increased interest in the content and 75% indicating that the approach helped them to go more in-depth on the topics. Viewing statistics on the course management system showed that students in the blended class looked at the optional, supplemental course resource materials provided on Blackboard more frequently than the students in the other two non-blended sections. It could be assumed that this was because they were required to use Blackboard in order to complete the online assignments and, as a result, were exposed to and hopefully more interested in viewing the additional, non-required material.

On the survey 90% of the students reported that they liked the convenience of the blended approach, 88% liked working independently at their own pace; 68% felt more comfortable expressing themselves with the blended approach, and 65% felt that the blended activities promoted a learning community, allowing

them to interact more easily with other class members. General student comments included:

"I thought it worked well, I was much more prepared for in-class discussion/participation; learned on my own while also in-class extended my knowledge on the information."

"It was a positive experience that I felt increased my knowledge of the area more than a traditional approach."

"I think the blended approach worked well, especially in a class so large. Smaller class size made it less intimidating to speak/share."

Students reported that the major skills that they learned as a result of using the blended learning format were better time management and organization, more responsibility and self-discipline for learning, and increased proficiency in the use of technology for learning. Some comments were:

"Improved my computer navigation skills."

"Learned time management and self-study skills as a result."

"I learned how to find out and interpret information on my own as well as take information from others."

"I think it teaches responsibility and that we are not always going to be spoon-fed the material."

However, one weakness of the approach mentioned by the students was the difficulty of learning on their own and not being able to immediately ask questions if they were unsure about the material.

Overall, the results of the action research study were positive. The students using the blended format learned the content, and many indicated that their engagement, preparation, participation, and interest increased. When asked if they preferred a blended to a traditional course, 35% preferred a blended format, 25% preferred a traditional approach and 39% were unsure. However, 78% recommended that the instructor continue using the blended approach. These results were encouraging because for the majority of the students this was a new learning experience and it was only used for one three-week unit. Based on this feedback, the instructor decided to use the blended approach with modifications in additional units of the course the following semester.

VI. CHALLENGES ENCOUNTERED FROM THE PILOT STUDY

The major challenge was finding the time for training, and to re-design and administer the course unit. Since the author did not receive any workload reduction, extra time had to be found for professional and course development. The online portion of the unit also required more time than originally anticipated for grading and providing feedback.

Another challenge was getting the students on board with the new format. Some students were skeptical about the new approach and not used to taking responsibility for their own learning. Others had issues with time management and using technology for learning. The instructor felt the need to continuously remind students about due dates and where to find materials and assignments on the website. Several students would wait until the last minute to post discussions and submit assignments and would sometimes run into technical difficulties. The author was surprised at some of the students' lack of proficiency when using technology tools for instructional instead of social purposes.

VII. LESSONS LEARNED FROM THE PILOT STUDY

Even though the author only pilot tested the blended format in one unit of her course and used a less rigorous, more informal action research design to measure the effects of the new instructional method, the author learned many valuable lessons which can help other educators who are starting to use blended learning or considering the use of this technique in their teaching.

- Start small. Pilot testing the blended approach is more manageable and feedback can be more quickly obtained and necessary modifications more easily made. You can learn from your mistakes and make better decisions for fuller-scale implementation based on the pilot test results.
- Conduct an action research study to measure the effectiveness of the pilot test.

- Get support. If you are an early adopter and there is no formal support at your college or university, talk with your department chair or college dean to see if there is any funding or workload reduction opportunities available. Find out if there are internal or external grants that could support professional or course development.
- Get training. Re-designing a course to work in a blended format is not easy. Learning how to effectively integrate online with face-to-face instruction so students see the connection and your course does not become a "course and half" is essential for effective blended learning. Online learning is best understood when instructors have a chance to engage in the experience themselves through online workshops conducted by qualified trainers. A valuable part of the online training is interacting with and learning from other workshop participants using the approach.
- Collaborate with other faculty members who are using hybrid or online instruction. Blended learning is a "collegial" process. Working with other faculty builds up confidence, maintains energy, and minimizes mistakes. Talk with your academic computing or faculty technology center to see how they can assist you. Organize a blended learning support group within your university or with faculty from other universities similar to yours.
- Remember that change takes time. It will take time to redesign your course and using blended learning is an evolving process. Therefore, do not expect too much at first, but rather look at your course as a "work in progress". It may also take time to get students, faculty, and administrators on board with the blended approach, especially if you are an early adopter.
- Set up your course management system carefully so it is easy for students to find the assignments, materials, and schedule. Carefully set up your online assignments and be specific about evaluation criteria and due dates. Develop rubrics for grading the assignments. Remember that it takes time to grade and provide feedback to the online portions of the course.
- Orientation before implementation prevents later problems. It is important to explain to students what blended learning is and the purpose and objectives for using the approach, as well as to familiarize them with the course website, the online assignments and due dates, the study and resource materials available, and the class schedule. For many students it may be their first time using blended learning.
- Provide students with technical and learning support. Make sure students are comfortable using the tools on the website such as posting on the discussion forums, submitting assignments online, and taking online quizzes. Do not assume that all students are adept at how to use technology for learning. Also, give tips on study and time management skills. Some students are not used to the self-responsibility that goes with learning material independently online. Breaking assignments down into smaller steps and providing reminders about upcoming due dates for assignments can help many students stay on task.
- Get a graduate student assistant. Especially with larger classes having a graduate student to monitor student completion of assignments and discussion postings and provide technical and time management support is an important element for successful implementation. The student can also help you with your action research. If the department does not provide graduate student assistance, consider using grant money to hire someone to assist you.
- Publicize your course to your department chair and college dean. Let them know what you need to further implement your blended course successfully and the benefits for the department and college. Hopefully this will result in access to more training, equipment, and support for course redesign and implementation without having to continuously seek additional funding.

VIII. FUTURE DIRECTIONS FOR BLENDED LEARNING

Based upon her experiences with the pilot test and the results of the action research study, these are the

author's next steps for blended learning.

- The blended approach will be expanded to all units of the course and used in both large and small sections.
- The blend will continue to be learning course content online and using class time for interactive, higher-order learning activities that complement and reinforce the content.
- The time involved in grading the online assignments was found during the pilot test to be very extensive, so low-stakes, online quizzes scored automatically will be used to assess student understanding of the course content.
- The organization of the website and the layout of the online assignments will be modified to make it easier for students to find the information, materials, and tools necessary to complete the assignments.
- There will be more checking for understanding of the online assignments during face-to-face class sessions. The instructor will use the results of online quizzes to go over difficult concepts. A discussion forum will be available to students for asking questions about online assignments. These questions will be addressed either online or during class.
- Splitting the larger sections into one-half online and one-half in class will be reconsidered because of the extra time commitment for the instructor. The author decided to use this technique to reduce the class size making it easier for students to interact and engage in activities requiring more higher-order thinking skills. However, the blended approach requires instructor time for managing the online portion of the course. Since the author was in-class teaching both days of the week, this took away the time she would normally have had for monitoring and grading the online activities. Another difficulty with using this technique is creating the class schedule to make sure that the first group of students had enough time to complete the online portion and learn the content before they come to class to engage in the in-class, content-extension activities.

IX. CONCLUSIONS

The author learned many important things as an early adopter of blended learning in an institutional environment that, at the time, had little experience and resources for supporting organized implementation of online education. The major contributors to her successful adoption of the method were the opportunity to learn from other faculty using the approach, and the ability to systematically assess and reflect on the adoption process through the use of action research. Action research gave the instructor valuable information that she could use to modify the course design and implementation. This information can also help other faculty interested in adopting hybrid instruction, especially in situations where support is limited.

Starting small with a pilot test and keeping in mind that transforming a course to a hybrid format takes time and is an evolving process were important factors in maintaining the author's motivation to continue. Obtaining professional development funds for training, equipment, and the services of a graduate student assistant helped make the change to blended teaching a successful experience. As she shares her experience and the positive student learning outcomes of the blended method, and as the university focuses more on online education, the author anticipates that more faculty will become interested in online instructional approaches and the level of resources and support at her institution will increase. Recently, a person was hired to support COE programs and faculty transitioning to fully online instruction. Current trends show that online education is the future, and blended learning can be a great way to prepare educators and institutions for making the transition to online teaching.

XI. ABOUT THE AUTHORS

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