

Effective Blended Learning Environments

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Abstract

Education is a changing environment. With the emergence of the Internet, education now reaches beyond the physical classroom. Teachers are finding new and exciting ways to engage the students in their classroom. One new emergence is the use of blended learning, the blending of a traditional classroom with distance learning. This paper describes the characteristics and features of a well-structured blended learning environment. In creating a successful blended learning environment, it is important to seek out the goals of the classroom, then set forth a plan to implement the goals through face-to-face and online learning. This paper reflects such issues as definitions, curriculum planning, and ideas for technology implementation including Khan's Octagonal Framework and the flipped classroom. When teachers set instructional goals and review how the technology can help meet the goals, blended learning can create a successful learning environment.

Keywords: blended learning, flipped classroom, e-learning, Octagonal framework

Effective Blended Learning Environments

Our nation is at risk. Education needs reform. According to the report, *A Nation at Risk* (National Commission on Excellence in Education, 1983), thirteen percent of seventeen year olds are illiterate and standardized test scores are lower than 26 years ago. There has been a gradual decline in literacy, math, and science scores (National Commission on Excellence in Education, 1983). The American industry has continued to decline against global growth (National Commission on Excellence in Education, 1983). Something needs to be done. A blended learning environment can be an effective system to meet the demands of improved learning in a growing technology age.

Definitions

Blended learning is among the top ten emerging trends (Graham & Dziuban, 2008). Traditional learning takes place when the instructor and students meet face-to-face at the same time and place. Distance learning is defined as “institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors” (Simonson, Smaldino, Albright, & Zvacek, 2012, p. 7). Blended learning attempts to take advantage of the best of both practices by blending traditional and distance learning into one learning environment (Graham & Dziuban, 2008).

According to the International Society for Technology in Education (ISTE), blended learning creates higher standards with less time and less money. With so much attention given to the need for differentiation and personalized instruction, blended learning provides a unique balance. Students receive the benefit of working face-to-face with an instructor, and they are also able to receive personalized instruction through technology in class and at home.

Most educators are aware that schools have minimal budgets. With current shortages, schools must find a way to do more with less. Schools are at-risk to lose more students if they do not do something to change how they approach learning. Horn and Stoker (2011) report that there has been an explosion in homeschool education from 800,000 students in 1999 to over two million in 2011. Many students are leaving traditional schools to use distance learning that is more personalized to fit their needs. Horn and Stoker (2011) also state that fifty percent of high school courses will be online by the year 2019.

Planning

Blended learning causes a teacher to re-think pedagogy. It allows for learning to take place in and out of the classroom. As with all education, it requires careful planning. Teachers need to use tools such as scope and sequence and curriculum mapping to determine goals and objectives. Next, determine the best way to achieve the intended learning goal or standard. Teachers should not simply choose technology just because it is there. There should be an intended purpose and reason why technology helps achieve the goal.

There are many ways to implement blended learning into the instructional program. Horn and Stoker (2011) summarize six models of blended learning: 1) face-to face where students use technology while in the regular classroom, 2) rotation where students spend at least a period of the class day using online instruction, 3) flex which features a lab where students spend most of their time yet includes face-to-face small group instruction as needed, 4) online lab where students complete certain courses of their school day with distance learning, 5) self-blend where students can take courses at home in the evening, and 6) online driver where students are able to begin a course through traditional instruction and finish it at their own pace online. Many teachers prefer to create their own blended learning by adjusting it as needed on a day-to-day

basis. Instruction is given in a traditional setting, then teachers use digital resources to enhance and transform the learning process (Pape, Sheehan, and Worrell, 2012). It may be a day mixed with both instruction and e-learning. Most recently evolved and discussed later, the “flipped” classroom has increased the blended learning scene.

NASA explains something called the 5E Instructional model, which can be very useful when planning a blended learning environment. This approach can be used for instructional planning. The five E’s represent five stages of teaching and learning: 1) engage, 2) explore, 3) explain, 4) elaborate (extend), and 5) evaluate. A summary is:

1. **Engage:** The teacher engages the student and prepares them for understanding. Many teachers like to use a pre-activity, such as “Do Now” with a thoughtful question. Teachers may choose to add a technology element such as an introduction video that piques interest.
2. **Explore:** Give the students a collaborative activity that allows for sharing and communication. In a blended environment, students may access technology to explore the topic at hand.
3. **Explain:** Teacher or learner explains the concept. For the students, this may be a reflective process.
4. **Elaborate (extend):** Students are able to expand on the concept learned, and elaboration may be given to those students in need.
5. **Evaluate:** The teacher and students evaluate the learning and understanding. This can be done through teacher observations, student interviews, portfolios, assessment, journals, drawings, and so forth. A blended learning environment might invite students to share their insight on a blog or wiki.

A site that is helpful for those interested in creating a blended learning classroom is *The Blended Learning Toolkit* created by the University of Central Florida and the American Association of State Colleges and Universities. There are weekly posts called the Morning Blend, information for building courses including examples, model courses, design and delivery principles, effective practices, evaluation resources, faculty development tools, and links for research (University of Central Florida, 2012). Included in the do-it-yourself project tasks are Portable Document Format (PDF) and Word documents for course design, as well as assignment instructions for assessment and ways to configure online quiz settings. All materials are provided as open educational resources under a Creative Commons Attribution Non-commercial Share Alike license (University of Central Florida, 2012). *The Blended Learning Toolkit* (2012) suggests focusing on course outcomes, provide meaningful student interaction, keep it simple, and allocate sufficient time.

The flipped classroom

Because the flipped classroom approach is so new, there does not seem to be a general definition. However, there is agreement within the commonality of the flipped room. It is a classroom where videos take the place of face-to-face teacher instruction, allowing more time in class for student and collaborative activities. According to teacher-author John Bergmann, a flipped classroom does not mean replacing a teacher with videos, online courses, or students working without structure or isolation (Bergmann, 2011). Instead, it is an environment where students are able to view class content at home, students take responsibility for their learning, and students are engaged in their learning through more hands-on learning (Bergmann, 2011). Andrea Smith, teacher, believes that creating videos for class use is an instructional challenge and craft. It means being able to explain a concept in clear, bite-sized chunks of four to six

minutes (as cited by Tucker, 2012). Bergmann believes that instructional videos are powerful tools to create content and share resources (Bergmann, 2011).

Furthermore, Bergmann (2011) explains that by flipping a classroom, the teacher can free up class time to work more with students and hands-on activities. The lecture time is moved into the homework section, and the homework section is switched to classroom time. Student-to-teacher interaction increases (Bergmann, 2011). Bergmann notes that it does take time to create videos, but suggests that the library will grow over time (Bergmann, 2011). He also suggests collaborating with other teachers, and searching for educational videos online.

Badrul Khan's *Octagonal Framework* (see Figure 1) is an e-learning framework that is free for educators to use for educational purposes (Khan, 2012). Badrul Khan is a world-known author and educator in the field of e-learning.

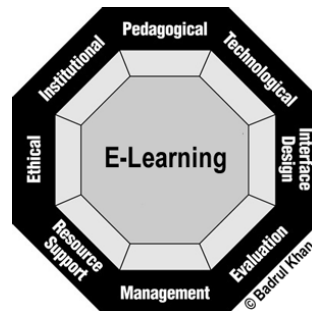


Figure 1. Khan's Octagonal Framework

Khan (2012) hopes that his framework will aide others in the design, distribution, and evaluation of e-learning courses. Further information, including an instructional video, may be obtained through his web site at Badrulkhan.com.

One Example

There are countless ways to use blended learning in the elementary classroom. The author of this paper, Pam Jimison, who taught fourth grade for over fifteen years, used blended learning during a social studies unit. The unit was about the Westward Expansion called Westward Ho.

To begin the lesson, she *engaged* the learners with an introduction video. She pre-recorded videos where she dressed as a pioneer, spoke with a southern accent, and talked about that week's life on the Oregon trail. These videos were archived on the classroom web site so that students could access them again from home or when absent from school. Students explored that week on the trail by accessing information along the trail on the Internet. Through collaboration and discussion, students made decisions that helped them along with their journey. Jimison explained the consequences of their decisions and elaborated on historical evidence. Final evaluation was given through assessing student journals. This would serve as an example of face-to-face blended learning. During one section of the unit, Jimison was gone from the class for a few weeks. She was able to continue the journey with the students through the web archive. She left specific notes for the substitute teacher on how to access the password-protected archive and play them at specific points during the journey. Students enjoyed seeing the teacher online even though she was out of the classroom.

Free Resources

Blended learning relies on free web resources to support instruction. There are myriads of wonderful instructional tools for teachers online, and the numbers grow daily. Because there are so many options available, students have a number of choices for differentiation and personalization.

Blogs are very useful. There are many free blog sites such as Blogger and Wordpress. Many teachers enjoy using Kidblog.org because it is free and provides for a safe blogging atmosphere. No email addresses are needed for student accounts and teachers are able to monitor publishing activity. The uses of blogging are many. Students can write reflections on topics

learned in almost any subject, create discussion posts, or attach pictures and videos. Blogging allows students the ability to increase communication and literacy skills.

MasteryConnect is a new and growing site for assessment of Common Core Standards. Teachers are able to search a standard, find assessments, and even create bubble sheet answer cards that can be scanned using a webcam and scores recorded onto the MasteryConnect teacher site. Recently, they added videos for teacher use. Teachers may select a standard and find supplementary videos and assessments.

Khan Academy (2012), founded by Badrul Khan, has over 3,200 videos ranging from arithmetic to physics. According to the Khan Academy web site, the site is a “not-for-profit with the goal of changing education for the better by providing a free world-class education to anyone anywhere” (Khan Academy, 2012). For a teacher just starting out with blended learning, Khan Academy is a useful tool. It allows a teacher to make use of its learning objects free of charge at any time. The website provides teachers with reports on student progress and ideas for targeted interventions (Khan Academy, 2012). Two suggestions for using the site would be to assign students an instructional video that targets the intended learning goal, then have students complete work online through the quiz section for immediate assessment or through a traditional approach. An alternate suggestion would be to assign a video for homework. Teachers should include questions with the video homework to make sure students are engaged at home. An excellent tool to try is Study Egg (Zendo Labs, 2012), which provides instant feedback. This alternate suggestion is used during the flipped classroom approach and is successful for creating more in-class time for collaboration, project-based learning, and hands-on learning.

Learning objects, as defined by Simonson et al. (2012), are objects used for the purposes of instruction. Many teachers enjoy creating their own learning objects; however, others prefer

not to re-create the wheel. For those who would prefer to borrow a learning object, Khan Academy is an excellent resource. For those that prefer to create their own unique resource, ShowMe (2012) is a simple tool. Teachers can easily create an instructional video using their mouse as a writing tool, or finger while using the available app. Pictures, maps, and videos may be placed into the instruction. What would this look like in a blended learning environment? A teacher could be working with a small group of students, while another group could be viewing their instruction on ShowMe. This creates an easy way for teachers to differentiate learning.

Simonson et al. (2012) state that open source software is software that is free and available for improvement and redistribution. Moodle is an example of open source software. It is also known as a Course Management System (CMS) (Moodle Trust, 2012). A teacher can use Moodle to create an entire online course or augment a blended learning environment (Moodle Trust, 2012). Teachers can take advantage of creating wikis, forums, assignments, and quizzes.

With the emergence of tablets, such as the iPad in the classroom, there are a number of very useful apps for educators to use in a blended learning environment. Dropbox is a cloud storage app and web site that allows users to save files, pictures, and projects. The items are stored in a file and can be shared with teachers or fellow students. Beautiful Planet HD is an app that would be useful for not only geography, but creative writing prompts as well. Science students may enjoy the GoSkyWatch Planetarium app. Imagine the ability to soar into space and view any planet in 3D. There are countless dissection apps for schools that may not be able to access a lab. Years ago, Disneyland had a ride called Adventures Through Inner Space where visitors simulated shrinking down smaller than an atom. Now students are able to imagine this right inside the classroom. The 3D Cell Simulation app splits apart cells. The app also includes videos that would be useful in a blended learning environment.

Conclusion

We must continue to reform education. In order for America to continue with strength in a global economy, we must ensure that our students are receiving the best education possible. Technology is a tool to help achieve this goal. Blended learning enables a teacher to create the best of both worlds for a student so that the student will become a fully functioning global citizen. Traditional learning still has a place in education. But in order to actively engage students, differentiate, and create an atmosphere of collaboration and high critical thinking skills, teachers must tap into the resources that are now available to them. Through the use of blogs, wikis, Moodle, and Khan Academy, teachers can expand their current classroom through time and space.

According to Sharma (2010), teachers must consider the appropriateness of course delivery (Sharma, 2010). Sharma states, “the face-to-face part of the course might develop student fluency through in-class discussion, while the electronic bulletin-board component might develop learner’s critical thinking skills” (Sharma, 2010, p. 457). In order to best help students, the objective must be set and the teacher must find the best way to meet the objective in a variety of ways. Since blended learning opens up the learner to a world of possibilities, it is something that needs to be explored and addressed in today’s classrooms.

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