

VIRTUAL PRESENCE IN BLENDED LEARNING ONLINE AND ONSITE COURSES

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ABSTRACT

Presence in the classroom has guided the learning concepts in secondary education until the advent of on-line classes and the concept of blended learning opportunities. This paper addresses the hardware and software components that make a student virtual presence possible in the traditional university courses for both the military student and traditional student. The question of concern on whether the virtual presence provides the same educational learning abilities as the onsite classroom provides is also addressed in this paper.

About the Author

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Introduction

Educational methodologies may change from time to time based on the educational needs of students and their ability to pursue those needs. For military students to be able to complete their educational degrees, changes are needed to enhance the educational methodologies put forth by education institutions. These changes are reflected in the use of a concept called blended learning. The concept of blended learning provides many opportunities, but concern is still prevalent with the virtual presence concept of the students and their obtaining quality education by their virtual presence in a blended learning class. Marc Rosenberg, author of *E-Learning: Strategies for Delivering Knowledge in the Digital Age* (2001), has argued that there is not a question about blending, but rather the important issue to consider is what are the ingredients necessary to make the blend. At present, the concept of blended-learning seems to be universal and some of the reasons for this increase, from the author's perspective, may include improvements in rates of learning, efficiencies of learning, determination of the older student, downsizing in companies and the need for further education by former employees, corporate investments, and cost savings. But there is another factor in that institutions of higher learning are seeing more and more the changes in their students, whereby today's undergraduates are more technology adept. There are 78 percent having used the Internet for schoolwork prior to entering college, more than 67 percent having used e-mail, and 80 percent having a computer by the time they even get to college. Undergraduate students report spending an average of twelve hours per week on the Internet (EDUCAUSE, 2003). Now, with those numbers coming from 2003, it is easy to see where the trend is going with the students of 2006 and their uses of cell phones, instant messaging, iPods, and a variety of other digital devices, plus their abilities with digital gaming.

EMBRY-RIDDLE AERONAUTICAL UNIVERSITY

Embry-Riddle Aeronautical University (ERAU) has a proud history of providing quality education for military students since the founding of the university in 1926, with residential campuses in Daytona Beach, Florida, and Prescott, Arizona, and over 135 teaching centers located worldwide today. In addition to the many centers, the university also provides a variety of

programs, both undergraduate and graduate (in the Masters level), onsite and online. The author is a professor for ERAU. This paper will address issues pertaining to online classes (Masters Degree) and to one special Masters Degree program, the Master of Science in Technical Management that is conducted onsite. In both programs the author is an active participating instructor. Both modes of instruction (online and onsite) continue to evolve in the administrative guidelines and education methodologies of instruction with the inclusion of blended learning.

History

Online classes at ERAU are those classes that are conducted on the Internet in some mode of communication, such as Blackboard that is the mode provided by ERAU. Online classes are graded on the interaction online and no onsite face-to-face class-time is required as part of the course grade.

Onsite classes are those classes that are conducted onsite, face-to-face, and are graded on the interaction onsite and no online class-time is required as part of the course grade.

Hybrid classes are a combination of onsite (face-to-face) and online interaction and the course grade requires student participation in both onsite and online modes for the course grade.

Blended learning classes are either an onsite class or an online class that uses a multitude of digital technology modes for enhancing the way a student may communicate with the instructor particularly in times of adverse situations, such as military deployment or work-related trips that require the student to be not available to attend the onsite class in person.

The author teaches both online and onsite classes in a blended-learning format.

Methodologies

Hardware

Today we live in a world of technological innovation, which is occurring at breakneck speed, and digital technologies are becoming a very large integral part of students' lives. Today's students are a complex variety, who do not learn in a simple or uniform fashion. Social interaction has been a concern in the use of blended learning, but today's students are used to interacting in the digital realm. More communication is taking place in the digital realm than face-to-face, per communication with students in the author's classes. The extent of hardware devices that

students can use for accessibility and modes of blended learning are advancing every day. The capabilities are found in Web conferencing, digital television, streaming audio and video, voice-over-IP or digital telephone, wireless computer networks, personal digital devices, handheld computers, pocket PCs (PDA), tablet PCs, video iPods, Blackberries, cell phones and Smart phones, DVDs, Bluetooth Devices, and the list goes on.

Software

Microsoft PowerPoint, Movie Making programs, Professional Video, Flash and Fireworks, Screen Recording Camtasia Studio 3, and Windows Movie Maker (use the Wizard) are just a few of the software programs available for concepts of blended learning.

WebCT, Blackboard, and Angel are all commercially available online learning management systems, which show students a virtual classroom on a virtual campus. Course management systems provide instructors with a set of online, customizable teaching tools for tracking student performance and managing course content.

In-house course management systems (CMS) may be developed by the technology department of the educational institution (note: these are some samples that can be used).

Tegrity

The home page of Tegrity states that, "Tegrity enables educational institutions to automatically capture, store, and index every class on campus, making class time available all the time, easily accessible to every student. Tegrity impacts learning across the entire institution!" (<http://www.tegrity.com/products.php>)

VIDITalk

The home page of VIDITalk states that, "VIDITalk is a powerful way to create and send video, enabling the delivery of high-quality streaming video in just a few simple clicks. You can create and send high-quality messages to recipients whether they are on a high-speed connection or dial-up. VIDITalk messages utilize VIDIStream electronic messaging services to enable streaming to next-generation cell phones and other wireless devices" (<http://www.vidisolutions.com/products/products.asp>).

Illuminate Live

The home page of Illuminate Live states that Elluminte can, "Add real-time interaction to distance learning and extend the boundaries of the traditional classroom"

(<http://www.illuminate.com/>).

Podcasting - Podcasting software allows you to create audio and video segments and publish them on the web. These broadcasts allow an instructor to introduce new content, communicate with groups or even record and publish lectures for students to download and play on their computers or iPods.

The list of software for use in blended learning formats is a long one with only a few just presented. For faculty to keep up with the advancing technology of hardware and software is one of the problems in blended learning, but students can tell the instructors all about the latest and greatest technology in their class assignments and demonstrations! Allowing students to be inventive is a great teaching tool in blended learning modes.

Virtual Presence and Learning

Virtual presence in blended learning can take place at any time and any place. The prime ingredients may be courses, content chunks, instant messaging pings, email, blogs, simulations, learning games, portfolios, and the use of a large variety of telecommunication tools (described previously under Hardware and Software) to name a few. But the interaction is the glue that holds all these pieces together, with the innovative concepts of the students and instructor and with the assistance of the administration. Of utmost importance is the participation in a course that requires the student to be continuously involved in relevant and meaningful activities that put forth a virtual presence of the student. The ultimate success and effectiveness of student learning lies in blending class work with learning and keeping the student in a virtual presence in the class at all times. This is a major challenge to the instructor.

Osguthorpe and Graham (2003) identified six reasons that one might choose to design or use a blended learning system: (1) pedagogical richness, (2) access to knowledge, (3) social interaction, (4) personal agency, (5) cost-effectiveness, and (6) ease of revision. From the observations over a number of classes taught by the author, access to knowledge is the key

factor, followed by learner flexibility and the convenience of accessibility to the class by the student. A point of interest in the onsite classes (ERAU-MSTM) for the use of blended learning is that the courses are taught in three different formats: one night per week for eight consecutive weeks, two nights per week every other week for three weeks, or two week-end days every other week for three weeks, but it is the time element whereby the evening classes are five hours long and the weekend classes are five hours on Friday night and six hours on Saturday. The night classes are very difficult for the students who have put in an eight hour work day! The concept of listening to a long lecture is just not acceptable, so the instructional method needs to include class discussions and a variety of learner interaction methods, both of which could be done in a forum within the Blackboard online system, asynchronously – anytime and anywhere. Virtual presence permits the students to be present for knowledge dissemination at their time frame when they have a fresh outlook and an interest in participation.

Tests – for convenience, tests may be set up on the Blackboard and testing is where the inventiveness of the instructor is important. Multiple choice questions are the best with a database of questions available, whereby the instructor can have different test questions generated for each student. The tests can be graded electronically with the results made available to the instructor and posted to the grade chart for student viewing.

Portfolios – are another important tool for virtual presence in having students do a portfolio of activities per the instructor's assignment. Each student portfolio is unique.

Team Projects – another unique concept of education is the team project, consisting of a paper, presentation, web page, PowerPoint with audio and video embedded, and some other activities all of which can be detailed and worked on in the Blackboard forum set up for each team prior to the presentation in class. Some team members onsite may not live close to each other and online communication is much more convenient than trying to meet somewhere in person.

Findings

Master of Science in Technical Management (MSTM) Courses

The author is a full-time faculty member in the MSTM program. The program is located onsite but in a diversity of sites around the world. The program is conducted on sites that are near

the work areas of the students (Boeing, Delta, Gulfstream, Honeywell, Lockheed, NASA, Pratt & Whitney, Sikorsky, United Space Alliance, etc.), including many military bases. Flexibility is available in that the students can take courses and take time off (for deployment) and enter back into the program when the time becomes convenient. Many of the faculty use multiple modes of communication for students who may have a temporary deployment (and oftentimes many other, non-military, students who are sent by their companies to various countries for global business). Again, the student has the option of a grade of Incomplete with additional time to complete the course and the instructor stays with the student until the completion of the course.

For those students who have temporary interruptions due to military or work situations, virtual presence allows them to continue to participate in the course from a distant location. The mode of communication used in the courses is Blackboard where the course information is placed online before the class is started onsite, such as a Welcome from the instructor, sign-up and some general information by the new students in the class, information on class activities, projects, assignments, and test times that allow the students to do some valuable time management. When the onsite course starts, all lecture material, PowerPoints used onsite, and any other onsite materials are made available the day after class by the instructor for those students who were not able to attend class. Assignments are posted digitally and graded online (reduction of paper) and a grade chart is available for the students to keep track of what assignments have been finished and graded. Any discussion topics held in class are continued online. Class projects are divided up into teams and the teams have a forum on Blackboard where they communicate to develop their paper, PowerPoints and presentations and in one class their team web page. For those students who cannot be in class for the final team presentation, they are required to develop an interactive virtual presence for the team presentation which has included: video and audio embedded in the PowerPoint presentation or embedded in the team web page, blogs, and live videoconferencing. Inventiveness is the name of the game. (And a plus is that the students like to present with a virtual presence, just to show what they can do!) Now, students can access Blackboard in any mode available: cell phones, Blackberries, laptops, and going to a cyber café somewhere in Europe! The list is endless in this digital technology savvy

time. And finally, there is email and instant messaging where the virtual student can contact everyone in the class with information for the class. It is important to remember that the key element of any blended learning environment is the scope of the communication channels available to support the students. All these activities fulfill the purposes of blended learning of open interaction, knowledge creation, information distribution, and efficient management put forth by Jung and Suzuki (2006).

Online Courses

The online courses can be similar to the MSTM courses in modes of communication. Blackboard is used by ERAU for the online courses and the function is for students to be able to access the course online anytime, anywhere, asynchronously. The author does not use any synchronous communication due to all the time zones that students are in. Asynchronous communication has many pluses. One big plus has been the bringing of internationality into the class by international students and students being in international locations. Again, it is important for students to understand the concepts of globalization, and education plays an important factor in globalization today. Another plus is the integration of online activities in the final grade assessments. Discussions earn class points and this prompts students to participate. Of interest is that in a class onsite of 22-24 students, they do not communicate as much as those online in the same size class, because in an onsite class some seem to be reluctant to participate. Small group discussion teams have also been used online, rather than the whole class in an online discussion. Online 'live' instructor lectures are also used (DVD, CDs or videos are mailed to the students before class begins.). Blackboard also permits the instructor to track the students' activities, which permits the instructor to check to see that no student has disappeared. Assignments are posted electronically and graded electronically with no need for paper. Grades are posted online for the students to check at any time and the author shares reading material pertinent to the class subjects before the class (Jung & Suzuki, 2006).

The author has had students access classes from the sites of recent wars (back to the first Gulf War) and the current wars, warships, and a submarine! The military is very helpful to students trying to finish their degrees.

Conclusion and Recommendations

The next generation of blended learning experiences will be identified by an integration of mobile and personal devices that will evolve from face-to-face and online blends to blends that provide a modular content object for the students to personalize, customize and continue to enrich their learning at the times of their choice, place and on their terms. Of interest today is the large volume of wireless Web surfing that is becoming common in the classroom and on line by students, and when they share their findings in class or online, this becomes a classic example of instantaneous collaborative learning. Blended learning provides a richer and more diversified environment to make critical thinking decisions and it accelerates the access of learners to a large knowledge base that can be shared with the class. Of importance, however, is that blended learning resources need to be coordinated with learning activities in the classroom and online to be effective. This requires an instructor to combine technology, pedagogy, and culture to assist all students in their learning methodologies. Blended learning will dictate the need for instructional skills in multiple teaching and learning modalities.

Furthermore, it will be the responsibility of the educational administration and each faculty member to see that faculty are educated in learning theories, pedagogy, instructional strategies, curriculum development, assessment strategies, and curricular applications of instructional technology, to keep up with the development and sustainment of online learning initiatives and the wide variety of blended learning concepts, hardware, and software. This is a formidable task for quality education that will be affordable, attainable, and will meet the needs of all students, on-site, online, blended learners, anytime, anywhere, and for all students who wish to continue their education.

Finally, institutions of higher education will need to assess the need and understand that student learning will occur when the student feels the need and has the time, irregardless of the place, and not when the institution has prearranged the time. Innovation will drive the institutions in the competitive global world of blended learning.

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