

EXTENDED LEARNING

Utilizing Social Spaces and Mixed Reality in Academic Environments

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Abstract: This paper introduces the concept of extended learning through the addition of emerging social technology in academic environments. In order to address the technological advances and learning spaces of the next generation, it is imperative for higher education institutions to take advantage of the tools used by students today. Suggested technological applications include social networking, immersive gaming, augmented reality, and virtual worlds. Discussion includes methods for integration and sample applications.

1 INTRODUCTION

Advances in technology have lead to a generation of students continuously connected to friends, family, work, and learning. Higher education institutions need to embrace these technological learning spaces in order to reach students with new skills and expectations.

A necessary shift must occur from the use of technology to recreate current classroom spaces in a digital world, to “extending” the classroom into social spaces. Unlike traditional blended or online courses, extended learning takes advantage of the tools of the next generation in their native environment.

2 BLENDED LEARNING

In the field of educational technology, the term blended learning refers to the combination of face-to-face and online components. Blended learning has the advantage of combining the most successful elements of face-to-face interactions with the interactivity of web technology (Osguthorpe and Graham, 2003).

Unfortunately, few courses take the best of both worlds approach. Static lectures and text-based activities do not elevate student learning, yet are frequently use in blending learning environments (Benson and Anderson, 2010). Successful use of

this approach is dependent on a flexible pedagogical style in addition to training and expertise in technology (Osguthorpe and Graham, 2003).

In addition to lack of education on best practices, this method is historically focused on less interactive learning and course management tools (Ocak, 2011). These 20th century tools do not take advantage of the native skills and technology available to the next generation of students.

3 SOCIAL LEARNING AS A NORM

In the United States, those born after 1981 are the millennial generation (Howe and Strauss, 1991). A generation where technology is a part of life, not an exciting invention to be explored. A generation with an expectation to be connected at all times to friends, family and information.

This is a global change in the way younger students work and play. According to a 2010 survey in the United States, 88% of teens use social networking tools every day (Junior Achievement / Deloitte, 2009). The trend continues in Europe, with 68% of teens reporting that they spend the majority of their online time on social networking and instant messaging sites (Cross Tab, 2009). This connection is expected to continue to the workplace. When asked about future job offers, 58% of teens will consider social networking access or restrictions

(Junior Achievement / Deloitte, 2009). This generation is learning and leading through constant technology innovation.

4 EXTENDED LEARNING

Extended learning is the use of emerging technology to reach students in their formal learning and social lives. This approach takes blended learning to a new level, with real time access to expertise and information in a variety of settings.

As with blended learning, a focus on best practices is imperative to success. Technology tools and online spaces must be included only for an obvious advantage for the learner. Faculty must also be training and frequently updated on new techniques.

Many excellent tools currently exist but are underutilized by educators. The following selection of commonly used and emerging technology will provide quality examples for extended learning opportunities.

4.1 Social Spaces with Technology

Twitter, Facebook, and MySpace are all based upon communities of users who share the same interests. Users contribute, read, explore, and discuss whether they are in a classroom or a cafe. These are exceptional tools for students to continue the classroom conversation beyond school walls.

Large course management providers have begun to integrate social media spaces using tools such as ConnectYard. This module can be integrated into campus systems (e.g. Blackboard, Desire2Learn, Moodle, Sakai) and students can indicate which social application to connect to the course conversation.

TWHistory (Figure 1) is an excellent example of highly detailed academic information through social media. Using Twitter, a team of professionals re-enact historical events. The enactments are historically accurate, authentic, and require student participation.

4.2 Immersive Gaming

The use of games in education has been explored for many years. Unfortunately, few games are created with education in mind. Educational games that do exist face their own challenges, including training of instructors and technical requirements (Ketelhut and Schifter, 2011).

Today's game-based learning does not require a classroom or supervising instructor. Games



Figure 1: TwHistory, a website using Twitter to re-enact historical events. Courtesy of TwHistory.

consoles such as the Wii, Xbox 360, and PlayStation are household names. With billions sold worldwide (e.g. 76,900,000 Wii consoles), students have access to a more immersive learning environment in their homes.

The recent release of controller-free entertainment is a tremendous development for education (Figure 2). Educational applications could include assisting students in creating their own molecular structures, building complex machines, and fitness training; all in the safety of their own home.



Figure 2: EA SPORTS Active 2, a new game for XBOX 360. Courtesy of Microsoft Press Kit.

Although a relatively new development, controller-free tools are catching on. The Kinect for Xbox 360 sold 1 million units globally in 10 days (Nintendo, 2010).

Serious games, games with value other than entertainment, have been a small market. In order for educational gaming applications to increase, pressure must come from the education sector. Just as textbooks are a major industry for education, so can be gaming.

4.3 Augmented Reality

The overlay of virtual objects in real life is called augmented reality. Objects can be shown to users using common tools such as computer screens, mobile phones, or emerging technology such as 3D glasses.

The use of mobile phones to augment reality is an extremely promising tool for education (Figure 3). The technology is already used frequently for social needs, such as finding a restaurant or home for sale. The requirements of an internet connected phone with built-in camera are increasing common. As with other emerging social applications, the educational use in these tools is lacking.



Figure 3: View the Berlin Wall using the Layar augmented reality browser. Courtesy of Layar Press Kit.

4.4 Virtual Worlds

The utilization of virtual worlds in education has gained a small and dedicated following. With a high technology requirement and time-consuming development process, the application in education has not moved into the main stream.

Although virtual worlds are used as social spaces, expected improvements in the next few years will increase the integration of virtual learning in higher education. The recent development of browser-based virtual worlds now opens up the possibilities to take the virtual into the social. Virtual worlds will be able to run on mobile devices and computers without the installation of specific software. In addition to increases in accessibility, virtual worlds are now able to include “real” elements in the virtual environment. The new Mesh import allows for the integration of realistic objects using design software.

The renewed interested in open source virtual worlds may address the time and cost associated

with creating a unique space. The software can be run by university technical support for a minimal cost, with the major fees associated with design of purchase of a pre-made objects.

5 CONCLUSIONS

Extended learning has the potential to excite students and reach them where they live and work. Higher education institutions that fully embrace this model of learning in and out of the classroom, will lead the field in a now consumer drive education market.

As with other types of technology enabled learning environments, best practices must lead the way. Faculty need training and support in innovative modes of teaching, in addition to time for curriculum development. This process can be accelerated by providing technology tools for faculty to use in their own social lives, therefore providing real-world training.

Lack of student access to technology cannot be used as a reason to dismiss emerging technology in coursework. Rental units and state-of-the-art rooms on campus can alleviate access issues for some students.

The students are ready and waiting for educators to connect with their lives outside of the classroom. It is now in the hands of administrators and faculty to seize the opportunity for increased learning and engagement. What are you waiting for?

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