

Virtual Learning Environments: Modern Teaching Technology

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Abstract

Internet technologies are having a significant impact on the learning industry. For-profit organizations and traditional institutions of higher education have developed and are using web-based courses, but little is known about their effectiveness compared to traditional classroom education. Our work focuses on the effectiveness of a web-based virtual learning environment (VLE) in the context of basic information technology skills training. These skills are required for the best results in the modern era of technology.

Keywords: Virtual Learning Environment, Modern Technology, On-line Learning

What Is “Virtual Learning”?

Though the hope is that information technology can add a powerful punch to the modern educational environment, many educators have found that it is the proper use of available modern technology rather than the presence of that technology that advances learning. Even longtime favorites pencil and paper and the overhead projector still have a place in the well-rounded modern classroom. Whether old or new, each technology has unique qualities (or “affordances”) of which advantage can be taken.

Personal computers and the Internet have revolutionized entire sectors of society. Facebook, Twitter, YouTube, Skype and other online communications media have allowed billions of people around the world to share ideas in a matter of seconds, mostly at a very low cost. These advances in computer technology are as remarkable as they are familiar.

But most people are not aware of how computers and Internet technology are transforming the way students learn. This emerging education paradigm is often called “virtual learning,” and it has the potential to improve student achievement, educational access and schools’ cost-effectiveness.

Specifically, virtual learning uses computer software, the Internet or both to deliver instruction to students. This minimizes or eliminates the need for teachers and students to share a classroom. Virtual learning does not include the increasing use of e-mail or online forums to help teachers better communicate with students and parents about coursework and student progress; as helpful as these learning management systems are, they do not change how students are taught.

Virtual learning comes in several forms:

- **Computer-Based:** Instruction is not provided by a teacher; instead, instruction is provided by software installed on a local computer or server. This software can frequently customize the material to suit the specific needs of each student.
- **Internet-Based:** This is similar to *computer-based* instruction, but in this case, the software that provides the instruction is delivered through the Web and stored on a remote server.
- **Remote Teacher Online:** Instruction is provided by a teacher, but that teacher is not physically present with the student. Instead, the teacher interacts with the student via the Internet, through such media as online video, online forums, e-mail and instant messaging.
- **Blended Learning:** This combines traditional face-to-face instruction, directed by a teacher, with *computer-based*, *Internet-based* or *remote teacher online* instruction. In effect, instruction comes from two sources: a traditional classroom teacher, and at least one of the forms of virtual learning described above.
- **Facilitated Virtual Learning:** This is *computer-based*, *Internet-based* or *remote teacher online* instruction that is supplemented by a human “facilitator.” This facilitator does not direct the student’s instruction, but rather assists the student’s learning process by providing tutoring or additional supervision. The facilitator may be present with the learner or communicating remotely via the Web or other forms of electronic communication.

Similar forms of virtual learning are sometimes grouped into broader categories:

- **Online Learning:** This is any form of instruction that takes place over the Internet. It includes *Internet-based* instruction; *remote teacher online* instruction; and *blended learning* and *facilitated virtual learning* that involves these two virtual learning methods. It excludes *computer-based* learning.
- **Full-Time Online:** This is online learning with no regular face-to-face instruction or facilitation. It is *Internet-based* and *remote teacher online* learning only, though it may include some occasional interaction with human teachers and facilitators.

Online learning has become increasingly popular in primary and secondary schooling over the last decade. The K-12 online education market is growing by an estimated 30 percent annually. Nationally, course enrollments in online classes rose from about 45,000 in 2000 to 320,000 in 2009. According to the nonprofit International Association for K-12 Online Learning, nearly every state allows at least some students to enroll in online learning programs and schools to some degree

Conclusion

Developing and managing an effective classroom is the product of several fundamentals. These include creating a lesson structure and planning that explains the who, what, where, when, how and why of what is being done; and utilizing the affordances of appropriate technologies to enhance the delivery and presentation of classroom materials. In doing this, educators must remember that developing rich-text materials with audio, video and text presents challenges. On the most basic level, rich-text authorship is unlike traditional authorship because it incorporates cutting-edge technology that requires multiple skill sets. The need for multiple skill sets means that authors must either learn those new skills or that creation must reside in authorship teams. In the latter case, each member contributes specific technological skills. Despite some obstacles, rich-text materials offer both pedagogical efficiencies and cost savings. Pedagogical efficiencies include ease of change and customization in attention-getting, engaging packages. Cost savings include reduced

“replication” and distribution costs, and elimination of all middle man (bookstore) costs. Besides traditional “book purchase” revenue, commercial possibilities include sponsorships with media, software, and hardware companies; licensing agreements; and module-based packaging for continuing education. Because of inherent flexibility, a rich-text can be customized for each class room or for each student as educators pick and choose among the various modules. Advantages exist for students and educators alike. If designed carefully, students will find that these materials engaging and intuitive and that they combine methods that help them learn best. Educators will find that these materials help them with their educational tasks and can help develop an organic, continually growing resource library for others to use. Because students find them more attractive, rich-text materials facilitate self-paced individualized instruction and remove repetitive and redundant tasks from the classroom.

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