Reflection in Online Education

Reflections on the Evolution of Online Delivery of Education

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Abstract: Online education, a subset of distance education, has evolved over time. In the early 2000s, learning management systems for online courses included a syllabus, a hard-copy textbook, instructional materials, a discussion board, electronic assessments, and a gradebook. Due to lack of administrative oversight, quality of materials and systems varied widely. Over the past 20 years, learning management systems have become easier to use, native to the online environment, and presented in more formats. Future developments—MOOC, VR, AR, CBE, centralized development models, and the continued survival of faculty—are each considered.
Keywords: online education, distance education, educational technology, distance learning trends

Stealing the words of an old tobacco slogan, “You’ve come a long way baby.” In an earlier article (Hansen, 2017), I discussed the long history of distance education that was facilitated by a breakthrough technology—the penny post (Public Broadcasting System, n.d.). Being able to use a postal system to carry correspondence allowed individuals to offer training and education through the mail. Early curriculum included such diverse courses of study as Hebrew and shorthand (Bittner & Mallory, 1933). In modern history, this was the birth of what in the twentieth century became known as distance education.

The term “distance education” can be confusing, as it is often mistakenly interchanged freely with the term “online education.” The Department of Education categorized the term “distance education” to mean, “print-based correspondence study, one-way and two-way live video, audiotapes, videotapes, voice-mail, CD-ROM, and the Internet” (Riley, Fritschler, & McLaughlin, 2001).

Online education is a sub-set of distance education. The term "online education" refers to both synchronous and asynchronous delivery of education via electronic exchange. "Electronic exchange" refers to communication via the Internet.

The most common model for Internet delivery in the early 2000s was comprised of a learning management system that had interfaces to the Internet. It included:

- A syllabus
- A hard-copy textbook that the student was expected to purchase
- Instructional materials from the institution of higher learning or the instructor in text format
- A discussion board
- Electronic assessments or tests that could be taken via the Internet
- A gradebook

The syllabus was the centerpiece of the course, as it provided a virtual contract of what the student was expected to deliver and how the set of deliverables would be assessed or graded. In almost all cases, it looked just like the printed counterpart a student received the first day of class in a traditional classroom setting. It also included how to contact the instructor, as there was no way to raise a hand to ask for help.

Contacting the instructor varied widely in the early 2000s models for online education. In some cases, faculty members had little—if any—contact with students. At the other end of the spectrum, students were expected to attend live exchanges with the instructor. In most cases, live exchanges were conducted by text in a public forum where all students could attend and participate. The middle ground was scheduled office hours or the ability to schedule an appointment. Office hours could be by telephone, or by a one-on-one forum exchange.

The textbook could be problematic. If the student were on the campus of the college or university taking a course online, it was fairly simple to go to the university bookstore and purchase the textbook for the course. However, in situations where the student was remote, acquiring the textbook could be challenging. Students could be weeks into the course before their textbook arrived by mail.

Course content in the early stages of online curriculum development varied wildly. In open models following classic higher education approaches, the instructor had near total freedom

in the development of their courses. With no administrative oversight and little—if any—instructional design support, faculty members were free to explore various options in course design for online courses. The major limitation was the knowledge and understanding of technology and instructional design techniques of the individual instructor. Individualized and unencumbered development was referred to as "the lone ranger approach" by both Bates (2000) and Hartman & Truman-Davis (2001).

Recognizing the limitations of the lone ranger approach, many colleges made an effort to maintain the unfettered approach to course design, but offered additional services to individual faculty members through a resource center or a boutique approach (Hartman & Truman-Davis, 2001). In the boutique approach, the college or university created a central technology center providing customized support to the faculty member who wanted additional help. This support could be in technology, software application, and graphic art design.

Large, proprietary colleges took a different approach, developing entire programs using a top-down system, where administration rather than faculty pushed centralized online development initiatives. In the centralized approach, the administration recognized that the production of online curriculum required technical support, instructional design, and graphic arts in partnership with faculty members or subject matter experts (Bates, 2000; Hartman & Truman-Davis, 2001).

How Things Have Changed in the Last Twenty Years

Syllabi

Of the six elements of an online course in the early 2000s, one of the items that has remained most constant is the syllabus, or contract between the student, the school, and the instructor. The most notable change to the syllabus is the tendency to chunk the syllabus into hotlinks that will take the student directly to the material or assignment, rather than just tell the student about the assignment.

Textbooks

The hard copy textbook has shifted in significant ways in the past decade. Now the textbook, if there is one, is a platform to multimedia materials. In 2000 there were often un-narrated PowerPoint lectures prepared by the publishing company to accompany the textbook. Now the textbook is often secondary to multimedia and learning materials that are intended to

capture and relay the student into a deeper understanding of the materials than simple reading techniques can provide.

However, an even greater movement is afoot. Open Educational Resources (OER) are placing publishing companies in jeopardy. By 2008, publishers were being forced by aggressive educational institutions to convert their hard copy textbooks to electronic-books or e-books. Schools began demanding select chapters rather than full textbooks that covered more material than the student needed for a given course. By 2012, OER started to gain traction; the researchers and writers circumvented the publishers completely and provided learning materials online for free. This gave rise to aggregators, who categorize and catalog materials for easier access. Some U.S. colleges now use OER materials exclusively. Others are using a mix of OER, e-books, and in-house developed materials.

The outcome of this shift in learning materials are two-fold: (1) reduced cost to students, and (2) in many cases, this provides more current material for students, as it often takes two or three years for an approved writing assignment for a new textbook to reach publication. The downside of this shift is also two-fold: (1) it can be difficult to manage multiple sources of material for a given course, and (2) the quality of the OER material often relies on the judgement of the individual choosing that material.

Instructional Materials

The shift in this area is also dramatic. In 2000 instructional materials were almost exclusively text. Today the shifts in how instructional material are enormous.

Adaptive learning frames provide learning in a systematic approach and can identify specific areas where students are having problems. The developed software tool then assesses what the student should review next in order to successfully master the learning objective. In effect, adaptive learning tools can customize learning to the individual within the parameters established by the institution and instructional design team.

Lectures use audio and visual rather than text-only exchanges allowing the instructor and the student to develop a higher level of engagement and exchange. Bandwidth issues remain a challenge for some rural areas, but even there, audio exchange is viable.

Miscellaneous reinforcement tools are readily available. These allow instructors and instructional design teams to provide mini-quizzes in the material as it is being delivered,

electronic flashcards, matching problems, and other types of assessment, rather than only true/false, or multiple choice.

Some institutions are developing full-video simulations wherein elements of a course—or even a full program—are filmed with live actors to create the environment where individuals will work and interact.

Merging electronic portfolios between coursework, and sources such as Linked-In and Career Builder are helping to expand the demonstrated skills that students are achieving in the classroom. In this same line is the development of badging programs that are working with both portfolios and with demonstrating skills beyond the classroom in areas that don't traditionally offer outside certifications.

Discussion Boards

The discussion board is still an integral part of most online educational programs. However, discussion boards are evolving with further expansion of multimedia presentation, just as instructional materials have done. Students can now provide audio, and in some cases video, as part of their discussion board participation. Instructors often use audio and visual to provide feedback to the student rather than just a written "nice job" response in text.

Electronic Assessment

The front end of electronic assessment is shifting as the abilities of the learning management systems have expanded. Screenshots, video, and sound can be inserted into assessment tools, broadening the ability to ascertain learning.

On the back end of electronic assessment, learning management systems now can provide direct links between the learning materials and the gradebook. They can provide speed grading tools and electronic grading rubrics.

Gradebook

The gradebook has not changed significantly in the current models on the front end. However, the ease of access and connectively to the learning materials has been upgraded substantially, reducing both the time, and the potential errors in the non-connected systems of two decades ago.

The Future

The future is anyone's guess. Here is mine.

Massive Open Online Course (MOOC)

In 2006 public and private organizations began developing curriculum that strove to provide unlimited knowledge in an organized fashion that could be delivered for no or limited tuition. Some of these courses enrolled tens of thousands of students. However, few students complete the formal coursework in a MOOC. The most successful MOOC operators today are partnering up with more traditional organizations today. MOOCs and badging may have some traction, but most badging in such scenarios will have a fee, if not tuition.

Virtual Reality (VR)

Virtual Reality with the use of 3-D glasses has arrived in the classroom, which can place the student in a three dimensional environment related to the curriculum. However, Virtual Reality curriculum has a decade of play ahead of it. The need for 3D VR has a limited home in higher education in the near term, but by 2030 it will begin to broaden its appeal for learning in other areas. The upfront cost to produce valuable VR materials will inhibit its progress into mainstream education, except where a very specific existing value is present.

Augmented Reality (AR)

Augmented Reality offers many of the same benefits of Virtual Reality, but in a flat two-dimensional environment. AR has more immediate implementation opportunities today but is still in the exploratory phase for broad use. The multi-media production costs are still a concern, but manageable for aggressive institutions with development budgets.

Competency Based Education (CBE)

Competency based education models are designed to allow students to progress as quickly (or slowly) as it takes for them to master course or program requirements. I'm not impressed. Many of the programs are doing little more than the nineteenth century correspondence school model. It also has a tendency to detach the instructor from interactive learning. For a form of credentialization it has some value, but it needs to evolve into a much more dynamic approach.

Centralized Development Models

Shifting to centralized development models is a must. It is already happening in many segments of higher education, and no matter how it is framed, it will become part of all institutions offering online education. Centralized development models must grow, as few

individuals have the talents for both their subject matter, instructional design, graphic arts, and technology. To make the best courses, it literally will take a village.

Faculty Will Survive

Over the past two decades the mantra that online education will displace the teacher has been suggested, often as a means of maintaining faculty opposition to online course expansion. The teacher or instructor or guide is a critical part, but not the exclusive part of bringing meaning to content. The role of the best teachers will shift (if they already have not) to that of guide and storyteller. Ironically, that takes us back three thousand years in history.

Summary

Twenty-five years ago, college faculty members were claiming that online education would go away and that it was just a toy; and employers were skeptical of the value of online education. Fifteen years ago, the truth was clear that online education was as good as—and in some cases better than—traditional college coursework. The future of online education will continue to evolve and improve. It is here to stay.

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