

Case Study: Converting an Existing Course to E-Learning

E-learning and learning is often a sketchy match at best. Finding the best way to turn a computer program into an interactive classroom experience takes creativity, an understanding of e-learning principles, and a lot of patience. Gone are the days when bullet-points on a power point could be considered high tech. Today, it has become clear that e-learning courses need to be tailored to how people learn. The traditional use of PowerPoint presentations does little to trigger learning and interaction. Just like in a classroom, e-learners need variety and engagement. This is a reflection of how The Credential Project at Texas State University developed a course that puts the student learning experience first and used e-learning technology to create the first truly innovative Adult Education teacher e-course for Texas. For this case study we will focus on three areas: 1. The conversion effort, 2. the benefits of e-learning, and 3. the nuts and bolts as they relate to the costs involved.

Background Information

Prior to this e-course the Professional Development Planning Workshop (PDPW) existed in an Instructor Lead Training (ILT) format only. The ILT course required adult educators to travel from all over the state to meetings which typically lasted all day. The PDPW acts as an orientation training for any adult education teacher seeking their Texas Adult Education Teacher Credential. The workshop typically lasted from 8:00 am until 4:00 pm for a total of 7 hours. These seven hours are estimated to be broken down as follows: 3.0 hours of instruction, 2.0 hours to exercises, and 1.0 hour to lunch and two .50 hour breaks. The PDPW was delivered 45 times to approximately 525 participants from 2004 until summer 2010.

The original PDPW has undergone several transformations as the Credential project has grown, each incorporating the lessons learned along the way. The ILT was originally designed to be a brief introduction to the Teacher Credential and the practice of reflective writing. Over time, several trends were noticed: the PDPW had evolved from its original intent and had become more of an introduction to the Credential and less of a planning professional development planning workshop. Next, participants attending PDPW workshops sometimes failed to complete the enrollment into the Credential Program, further they would not submit the required written reflections for earning their Credential. Based on these observations The Credential staff began looking for alternative delivery methods in an effort to address these issues and improve completion rates in the fall of 2009.

Several meetings were held to discuss options. It became apparent early on that a web-based e-learning alternative and modifying the enrollment procedures would be the most appropriate methods for updating the course. In December 2009, Credential project staff began the process of converting the ILT course to its e-learning equivalent using a combination of Microsoft PowerPoint and Articulate. Delivering a quality e-learning product took careful planning. We needed to present the information in a way that drew the student into the experience. The flow, artistic design, and interactivity became a priority. Since the e-learning course would become the teacher; we wanted to be sure the teacher taught well.

The finished e-learning product was delivered in September 2010.

The Conversion Effort

We began with a process of exploration and questioning (Qualls, 2009). The credential project exists as a system and in order to properly develop the e-course, it had to be appropriately fitted into the context of this system. From here we will explore the answers to these questions, the implications for each and aftereffects we dealt with along the way.

Does the course already exist in ILT format? As indicated in the title of this article, Credential Staff was converting an existing ILT course to e-learning. Therefore, we weren't working from scratch and had plenty of key points to work from.

If there is an existing ILT course, does the courseware exist in electronic form? Is it useable? The ILT course was delivered using PowerPoint slides. It turns out that this didn't help us as much as one might think because the ILT course was developed using heavy technical level text and captured the screen images rather than image files, such as JPEGs. The ILT course was made this way for two reasons. First, if the screen content changed (and it did), we could simply overtype what we had rather than go through the screen capture process again. Second, the PowerPoint slides were reproduced as handouts and black-on-white text uses much less toner than a colored image.

When it came time to create the e-learning version, however, we felt that the users needed much simplified text and to view the most current screens, not black-on-white representations of them. As a result, during the conversion project, every scenario or screen shot had to be captured as JPEGs. This was a tedious process, but at least we already knew what screens to capture.

If there is an existing ILT course, how complete is it? In other words, was the existing courseware complete with speakers' notes, or was it simply a collection of bullet points and lists? The existing screens were text heavy and written in an effort to substitute for job aides, class handouts, and speaker notes. It lacked usability and engagement. The language had to be simplified and made more user-friendly, and the speaker notes, or scripts for the audio, had to be written from scratch. The omission of speakers notes increased the time required to convert the course to e-learning.

Are there any hands-on exercises in the ILT course? Will these need to be converted? Is it feasible to do so? There were two hands-on exercises in the ILT course. These were both incorporated into the e-learning modules. A subsequent issue arose because the exercises needed to be submitted into two different tracking systems. The first assignment needed to be submitted into a separate external system called The Credential Information Tracking System (CredITS). The second exercise, a written Professional Development Plan (PD Plan), must be faxed to the Credential staff offices.

Is the person doing the conversion familiar with the ILT course? If so, the developer is at an early advantage for making decisions about what to include or address in the online version. In our example, because we were the co-authors of the ILT course, we were already familiar with the content. If you're not the developer of the ILT course, we recommend participating in the ILT course before developing the e-learning version. Because the e-learning is narrated, there was a considerable amount of time spent writing the audio scripts because there were no speaker notes for the ILT course.

Is the person doing the conversion familiar with the product or service being taught? If not, will subject matter experts (SMEs) be available for consultation as needed? By the time we began converting that course to e-learning, we were familiar with the PDPW training and with its use within the Credential Project. Still, when we began the conversion process we made a point to work closely to

the supervisor with primary responsibility for the PDPW. This person was immediately available for assistance as necessary. This proved to be an invaluable resource.

Will the person doing the conversion be dedicated to this project exclusively? Once the conversion effort began, we had the luxury of devoting entire weeks to it without interruption. In our experience, some of the tasks, particularly capturing screen shots from the mainframe and writing the scripts for the audio, required a great deal of concentration and necessitated a work environment free of interruptions.

How many people will be working on the conversion team? The lead developer had the luxury of working closely with an individual who had not only strong programming skills but a keen sense of graphic design. If the conversion project is large enough to require more than one person, then the manpower required will go up as you factor in management overhead. In other projects that require a team development approach, it's important to determine roles and outline tasks before delving too deeply into the project.

How much animation and graphics are required? E-learning courses rely heavily on visual appeal in order to keep the learner engaged. We accomplished this by including animations and significantly more graphics into the final product. Our product required a fair amount. This animation increased conversion time. In order to make the e-course visually appealing, and not just a bullet list, a considerable amount of time was expended locating free or inexpensive graphics. There was a concerted effort made to make sure that the completed e-course did not look anything like a converted PowerPoint presentation.

Is the scope of the conversion effort clearly defined? Early on in this project we made it clear that the conversion process would also incorporate new revisions to the course. The PDPW had seemingly evolved a bit backwards. Morphing into more of an introduction to the Credential and less of a professional development planning session, staff supported the idea to re-focus the PDPW back to its original intent, a session to assist participants in planning their professional development towards earning their Credential. We would be converting the existing ILT course to its e-learning equivalent, with extensive modifications and enhancements. *Without question, having clearly defined scope was the single most important factor in the success of this project.*

What is the approval process? Who will sign off on the project? As with most development projects, this issue goes back to the topic of scope. Fortunately for us, we had clearly defined the scope in the beginning. Most of the Credential staff who were involved with the product seemed more than willing to let us do our own thing--they were just glad that something was happening. They were already comfortable with the original intent of the ILT course. Ultimately, there were only a few people who had to approve the end-product, and this was determined early in the project.

How will the finished product be implemented within the organization? Our University used a highly developed Learning Management System (LMS) to deliver the course, the Teaching, Research, and Collaboration System (TRACS), and the person responsible for that site was very easy to work with.

Does the organization use a learning management system (LMS)? If so, will this product be required to interface with that LMS? Our University had an established LMS, TRACS, the course would reside in a Project Site within TRACS, but would not have to report any information back to it. The tracking of participants who had taken the course would be tracked in a different system.

How will learning be measured? We included some true/false, multiple choice, and scenario based questions within each module. Responses are scored but not recorded. The two required exercises are submitted in two other different systems and are verified by Credential Project staff.

Is the person doing the conversion familiar with the e-learning software? Does the person doing the conversion have prior experience with similar projects? We used a combination of Microsoft PowerPoint and Articulate to create the e-learning product. However, prior to this assignment, we had spent just one day testing it. Fortunately, as most Windows-based products, Articulate is fairly intuitive. But there is a definite learning curve, particularly for a conversion effort. Both team members had minimal prior knowledge of the software product Articulate when we began developing/writing the e-course, and that certainly had an impact on its development time.

Benefits of e-learning

The benefits of e-learning are well documented. Nevertheless, there are two benefits for which our experience can provide hard data or an anecdote: reduced training time and improved documentation.

Reduced training time. Here is a snapshot that should serve to demonstrate the reduction in training time realized by using e-learning instead of an ILT course. (The ILT time shown here includes instruction time only, no exercises, breaks, or lunch.)

	ILT Time (h:mm) (approx)	E-Learning Course (h:mm) (approx)
Introduction to the Credential	1:15	0:30
Professional Development Planning	4:00	2:44
Total Time	5:15	3:14 (40% savings)

As you can see, e-learning can save a lot of time. It tightly compacts the information and lets the learner work at their own pace. We concentrated on allowing adult learners to explore courses at their own pace, following their own path. We did not imprison them in a "click-next world." This results in the student understanding what they need more quickly and provides them with the luxury of reviewing the information as many times as needed. An e-learning course also saves time indirectly by eliminating travel time and work hours. The learner can access the information at their convenience and on their time. Further, by making the PDPW available on demand, there was potential to increase the likelihood that a teacher would participate in and complete the Credentialing process.

Improved course flow. It was important to keep the modules short. The shorter modules have several benefits. The shorter length proved to be less intimidating to the learners and the content more palatable, and technically the smaller modules loaded faster. On the index page, the length of each clip was noted. As one learner said, "Anyone can find time for five or ten minutes of training." Also because the course is available on TRACS LMS, participants can go back and review a topic at any time.

The Nuts and Bolts

How long does it take to create e-learning?

The chart excerpted below indicates the numbers from a 2009 American Society for Training and Development (ASTD.org) survey (Defelice, Kapp). Respondents only provided numbers to the methods that they had used. This e-learning project is considered highly interactive and includes multiple animations. Our overall development time of 10 months fell at the high end hours indicated below.

Type of Training per 1 hour	Per hour of Instruction - Low Hours	Per hour of Instruction - High Hours
Stand-up training (ILT - classroom)	43	185
Self-instructional print	40	93
Instructor-led Web-based training delivery (using software such as Centra, Adobe Connect, or WebEx-two-way live audio with PowerPoint)	49	89
E-learning Developed without a Template		
Text-only; limited interactivity; no animations	93	152
Moderate interactivity; limited animations	122	186
High interactivity; multiple animations	154	243
E-learning Developed within a Template		
Limited interactivity; no animations (using software such as Lectora, Captivate, ToolBook, TrainerSoft)	118	365
Moderate interactivity; limited animations (using software such as Lectora, Captivate, ToolBook, TrainerSoft)	90	240
High interactivity; multiple animations (using software such as Lectora Captivate ToolBook TrainerSoft)	136	324
Limited interactivity; no animations (using software such as Articulate)	73	116
Moderate interactivity; limited animations (using software such as Articulate)	97	154
High interactivity; multiple animations (using software such as Articulate)	132	214
Simulations		
Equipment or hardware (equipment emulation)	949	1743
Softskills (sales leadership ethics diversity etc.)	320	731

How Much Will It Cost? Estimating an e-Learning Development Budget

There is one question that training managers ask consultants and vendors more than any other - "What does it cost?"

Consultants squirm when asked how much a training project costs. It is a lot like calling up a construction company and asking, "I want to build a house, what's it going to cost me?" The obvious answer is always, "It depends." The price of a house is likely to depend on many factors, including site preparation; total square footage; number of rooms; style and quality of construction; finishing details such as flooring, counters, and cabinets; landscaping; and even the construction schedule (is it a rush job

that will require overtime labor?). So, too, the cost of an e-learning project depends on many factors. (Defelice and Kapp, 2009)

Pricing Rules of Thumb

While the answer to "how much will it cost" is not simple, there are rules of thumb that are commonly used. These "rules" often are upheld wrongly as hard-and-fast, cast-in-concrete rules, rather than the general guidelines they are intended to be (ENYSYS, 2009).

The most common price reference is that it takes approximately 600 person hours to complete one hour of high-quality multimedia training, which is usually delivered on CD-ROM. This includes all services - instructional design, audio and video, programming, quality control, and project management. For simpler web-based or computer-based training without audio or video, the rule of thumb is that it takes 300 person hours, or half as much work, to complete one student hour of training.

Most training vendors charge \$100 to \$125 per hour for their services, which puts the cost for multimedia CD-ROM training at \$60,000 to \$75,000 per finished hour. An hour of Web Based Training (WBT) or Computer Based Training (CBT) without audio or video might cost \$30,000 to \$40,000 to develop. Many informal industry surveys support these rules of thumb. The American Society for Training and Development (ASTD.org) reports on a recent survey that one-hour of multimedia could cost upward of \$65,000.

Conclusion

Converting an existing ILT course to an e-learning format is a long process but yields great rewards. It increases engagement and allows the student to learn at their own convenience. Successfully transferring an ILT course to an online format should be a systematic approach which includes all relevant aspects of managing the project. Good graphic design is also important to add elements of engagement to the e-learning course. Our experience with creating the e-course was a rewarding process. While it took careful planning and frequent revisions, the end result was a beneficial product which will help students learn more effectively.

References

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