ABSTRACT. The authors collaborated in the design and development of a Web-based Continuing Legal Education course entitled Legal Research on the Web. The development of online CLE courses is a continuing concern for legal professionals. Most states currently have mandatory requirements for CLE and thirty-four permit online CLE. This paper provides an account of the process of developing a course interface, through collaboration of a legal librarian and an educational technology class, integrating the needs of attorneys into the content area, and a description of the finished product. Graphic examples are presented to provide a visual context.

KEYWORDS. Web Reference Library, Continuing Legal Education Design and Development, distance learning

INTRODUCTION

The development of Web-based Continuing Legal Education (CLE) continues to be an issue facing bar associations and attorneys nationwide.
In a collaborative project at the University of Arkansas between the School of Law–Young Library and the Educational Technology Program (ETEC) in the College of Education and Health Professions a product was designed and developed to be a model for future Web-based CLE. The project was initiated in a fortuitous meeting of a professor of Educational Technology (hereafter referred to as “the instructor”) and the Director of Continuing Legal Education at the Law School. Coordination with the Young Library was facilitated through a reference librarian, hereafter referred to as “the client.”

The project sought to develop the first fully asynchronous Web-based CLE offered from the University of Arkansas Law School, on the topic of Legal Research on the Web. The collaborative project filled several purposes. The CLE was produced by the students of a graduate class on Web-based educational design taught by the instructor. Thus, the students gained valuable knowledge and experience by creating the CLE product, while the Law School gained a new educational resource. Furthermore, the instructor’s students were exposed to authentic design and development conditions in online education.

This paper provides an account of the process of developing a course interface, through collaboration of the client and the ETEC instructor, the process used to coordinate class activities with the client, and a description of the finished product. Features of the completed course interface will also be discussed. Process as well as results, may be of interest to readers who are considering a similar interdepartmental collaboration to develop asynchronous online CLE-ware. Because the course was developed exclusively in an academic environment, the relationship between online learning theory and its application, and their results will be given particular attention here.

The development of distance CLE courses is of great importance to the legal profession, and, specifically to legal education. Forty of the fifty states currently have mandatory requirements for continuing legal education and many of those permit online CLE (see Table 1). Arkansas remains one of six states yet to approve online CLE. There exists a large and growing private production capacity, designed to meet the online CLE needs of a multimillion-dollar market.

The Association of American Law Schools and the American Bar Association recently approved the certification of law school coursework through distance education. While no distance law degree programs have received ABA or AALS accreditation, Concord Law School has developed an unaccredited online law program and Taft University
TABLE 1. Summary of MCLE State Requirements. States that require lawyers to take mandatory continuing legal education (MCLE) courses in order to practice law within that particular jurisdiction, retrieved at: http://www.abanet.org/cle/mclemap.html.

<table>
<thead>
<tr>
<th>Up to 12 hours</th>
<th>13-15 hours</th>
<th>Multi year requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virginia–12</td>
<td>Wyoming–15</td>
<td>Wisconsin–30 over 2 years</td>
</tr>
<tr>
<td>Rhode Island–10</td>
<td>Texas–15</td>
<td>West Virginia–25 over 2 years</td>
</tr>
<tr>
<td>Pennsylvania–12</td>
<td>Tennessee–15</td>
<td>Washington–45 over 3 years</td>
</tr>
<tr>
<td>Oklahoma–12</td>
<td>South Carolina–14</td>
<td>Utah–27 over 2 years</td>
</tr>
<tr>
<td>North Carolina–12</td>
<td>New Mexico–15</td>
<td>Oregon–45 over 3 years</td>
</tr>
<tr>
<td>New Hampshire–12</td>
<td>Montana–15</td>
<td>Ohio–24 over 2 years</td>
</tr>
<tr>
<td>Nevada–12</td>
<td>Missouri–15</td>
<td>North Dakota–45 over 3 years</td>
</tr>
<tr>
<td>Maine–11</td>
<td>Arizona–15</td>
<td>Minnesota–45 over 3 years</td>
</tr>
<tr>
<td>Louisiana–12.50</td>
<td></td>
<td>Indiana–36 over 3 years</td>
</tr>
<tr>
<td>Kentucky–12.50</td>
<td></td>
<td>Idaho–30 over 3 years</td>
</tr>
<tr>
<td>Kansas–12</td>
<td></td>
<td>Florida–30 over 3 years</td>
</tr>
<tr>
<td>Georgia–12</td>
<td></td>
<td>Delaware–24 over 2 years</td>
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<tr>
<td>Arkansas–12</td>
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<td>Colorado–45 over 3 years</td>
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<tr>
<td>Alabama–12</td>
<td></td>
<td>California–25 over 3 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vermont–20 over 2 years</td>
</tr>
</tbody>
</table>

...has a program accredited by the Distance Education and Training Council (DETC).

The Arkansas Bar Association has sponsored statewide distance CLE in the compressed interactive video format, using technical support from the University of Arkansas. These programs were the first of their type to be deployed in Arkansas. The Bar Association has a particular interest in the development of online CLE for several reasons.

1. Online CLE is less expensive to attorneys, even with higher registration fees. The Arkansas Bar is predominantly rural but increasingly has access to the Internet. The greatest cost of CLE to rural lawyers is time out of the office when travel is required to attend the program, rather than registration costs. With secure site technology attorneys would be able to pay online with a credit card. Bar members will benefit tremendously from online CLE in cost savings, even if the production costs of online CLE mean higher registration fees for the programs.

2. Online CLE offers greater accessibility and selection among CLE programs. Planning and production of traditional CLE programs re-
quires a large lead-time with significant costs, e.g., conference center, food, printing, marketing, travel, etc. The live program format is subject to inherent risks, such as local weather conditions and speaker cancellations. Capturing and distributing the program on video lacks interactivity, adds extra cost in production, and adds further delays and costs to attorneys who must order the video. Online CLE avoids or minimizes these problems and allows development of a greater selection of programs among a wider array of topics.

3. Time sensitive program content can be monitored and updated to preserve curricular integrity and professional value. The digitized format of online CLE permits programs to be edited and kept current when the law changes. This aspect is particularly important in CLE. Historically, print notices of changes in the law took 60 to 90 days to reach attorneys through the mail. This time gap continued with the advent of CD-ROMs that first had to be burned and then mailed to subscribers. Online CLE offers the opportunity to update programs on a real-time basis as changes occur.

4. The online CLE production capability will give each law school the chance to supplement the course offerings in their Juris Doctorate program. The distance learning courses will reach more students and increase the opportunities for collaboration by and between faculty in the development of courses in the degree programs for Juris Doctorate candidates.

**MISSION OF THE DESIGN COURSE**

This course was designed to provide an overview of the principles of Web design necessary for establishing and maintaining learning sites on the Web. Students were expected to explore selected theories and concepts related to Web design from different perspectives. Finally, students worked with the client from the University of Arkansas Law School Library to develop a Continuing Legal Education course as an opportunity to put instructional theory into practice.

**LEARNING ABOUT WEB DESIGN**

The class was composed largely of nontraditional students with little or no background in Web-based instruction or learning, although several students had backgrounds as classroom instructors. The lack of ex-
posure to the technology had unanticipated results. The *tabula rasa* of students in their approach to difficult problems in online instruction offered a "fresh" perspective. The class was enthusiastic about the possibilities that Web-based instruction offered and the instructor encouraged a collaborative working atmosphere where experimentation and innovation were rewarded. There was little sense of presupposition, and no single instructional approach to the CLE was imposed on the class.

The class started with an introduction and exposure to basic theories in Web-based instruction. This began with an examination of currently established principles in online distance education. Sarah Horton’s *Web Teaching Guide* and Jacob Nielson’s *Designing Web Usability* were the course texts. Nielson was used as the topical authority for the course. The class focused on Nielson’s principles of emphasis on function over form. Nielson’s work describes the Web as a tool that people use to find content and products they want. His design strategies guard against the creation of slow, confusing, esoteric sights that excite the eye but are hard to use or understand. His philosophy of Web design is: . . . the main goal of most Web projects should be to make it easy for customers to perform useful tasks.

Each week the instructor used course management software to post a case study related to online instruction and that closely paralleled course readings. Class members were responsible for completing assigned readings in the text, examining particular Web sites online that were representative of or disregarded principles discussed in the text. They were required to discuss the issues presented in the online case study. Each examined Web site was discussed in terms of the theoretical topic for that week. Topics included:

- Usability
- Content
- Site Functions
- Site Design
- Site Assessment
- Accessibility

One case included a hyperlink to what appeared to be an online zoo. A disorienting array of pictures and elaborate instructions appeared to be intended to direct the learner to real-time streaming videos of live animals in various environments. The site created the impression that students could go to this site at any time of day or night and see exotic animals. The site initially held great promise, encouraging the students
to endure confusing, badly designed navigation. However, as the students laboriously weeded through the array of instructions and linked to the video streams, each of which seemed to work in a different way, they discovered mostly blurry images of motionless and empty environments of apparently uncooperative animals. One shot that took a considerable amount of time to load was of a body of water at night with no apparent intended content at all. The combination of high potential coupled with poor or no delivery brought Nielson’s message of usability and functionality home. Web site designs that sound intriguing in a thought experiment do not necessarily pay off in the “real” world of the Internet. Students were starting off their careers in instructional design with their feet firmly on the ground.

**COORDINATING BETWEEN THE LAW SCHOOL LIBRARY AND WEB DESIGNERS**

Toward the end of the Web design theoretical instruction, the group decided to divide the work tasks, and members were assigned specific duties. One student was assigned as a liaison to streamline communication with the Law School client. His job was to meet with the client and obtain necessary content as well as schedule any necessary meetings with the class as a whole. The instructor closely monitored the transfer of data to prevent misinterpretations or loss of content. A second student was appointed as the project Webmaster and was given the task of writing the HTML that conformed to the class’s decisions on design. Other class members were given various content responsibilities. A portion of each class period was used as a design team meeting.

The client’s first contact with students was through a meeting with the representative of the student team. This was a positive first step from the client’s perspective based on his experience working with groups and teams. It was preferable to work with one representative of a group because that arrangement allowed the best chance of communication being maintained in an efficient and clear manner. This also served to give the client a positive impression of what was to follow; the client concluded that the instructor was starting on the right track by establishing this arrangement for interaction between his students and the client. The student representative established and maintained a good working relationship with the client throughout the course of the project.
Clear communication was particularly important in a collaboration of this kind. First, the students had no background in searching for legal information online, or being able to evaluate its significance. Likewise, although the client had some idea of what he thought a Web site of the kind planned might look like, he had no experience with how to construct an interactive Web site. Without that ability, the client could not be sure how construction or design factors would limit or dictate the content and interactivity he wished to use in this online course. As a result of these and related factors, it became clear that utmost care would need to be taken with communication between the client and the design team.

Because the client and his colleagues had experience presenting a face-to-face (f-t-f) CLE, the Web sites used in those presentations were shared with the design team so they could see to some extent the materials the client wished to make available in the online CLE. An article co-authored by the client that described those presentations and the problems that occurred during delivery was also shared with the students (see following section for details). The students had prepared a list of questions for the client to be answered before the student representative’s first meeting. The questions covered such subjects as goals of the online CLE, whether they would be different from the earlier f-t-f CLE, whether the same Web sites would be used, whether there would be visual links other than existing Web pages, whether there was an existing CLE that could be patterned after, whether the online CLE would be a stand alone or one in a series, and whether the subject matter would be to a specific area of the law, such as agricultural law, or more general in scope. That first meeting involved a discussion of those questions and others that arose from the discussion, along with questions the client had for the representative. It was important that the client and the students not assume anything. An early decision was made that the project should be undertaken in discrete units. By taking one segment at a time and thoroughly going through each before going to the next, all of the participants were “on the same page.” This not only provided for resolution of each part of the project, but also allowed for successive phases to build on those successfully completed. From the client’s standpoint, this approach gave him confidence in the eventual success of the overall project. There was no concern that at some point down the road an impasse might be reached which would require backing up to fix something that had been overlooked. Being deliberate and not rushing were the best ways to proceed.
CONSIDERING COURSE CONTENT

After the first meeting with the client, the student liaison returned to the class with content the client wanted to use on the Web site. The Design team and client agreed that the content of the course, Legal Research on the Web, dictated that the final online course be presented in modules. The client had previously offered a traditional CLE entitled “Legal and Related Sites on the Web.” This earlier CLE was designed to teach lawyers how to use the Web to perform legal research, by directing them to important legal Web sites and demonstrating how to use them to find information. The “Legal and Related Sites on the Web” CLE had been offered to lawyers on three occasions in a series of computer labs and had been administered by the client and a small instructor team. The content of the Web-based CLE contained the Web sites that were explored and the tasks that were performed in that course.

The client’s interest in developing and having a workable interactive Web-based CLE came from previous experiences. This previous project was, reported in the Legal Reference Services Quarterly5 in which the client and colleagues, W. David Gay, Chris Abel and M.N. “Mac” Norton, taught a Web-based CLE course, “Legal and Related Sites on the Internet.” That course used as its basis a Web site of the same title.6 The course was taught at various locations7 in central and western Arkansas over a period of approximately one and one half years.8 This mobile CLE was team-taught by Mr. Gay, Mr. Jackson, and Dr. Norton in a f-t-f setting.9

The attorney-learners sat at workstations with Internet connections and navigated among various legal and related Web sites under discussion, while those sites were simultaneously projected onto a screen before the audience.10 One presenter attended the video data projector that displayed the various sites while another discussed the sites with the audience. The remaining presenter circulated among the audience to answer individual questions or render other assistance as necessary.11 The presenters took turns performing in each capacity. Given that the presentation lasted approximately three hours, it was necessary for the presenters to alternate roles to prevent fatigue. Based on their experience using this approach, the presenters came to several conclusions.12

The presenters agreed that using an interactive Web site, allowing learner interaction with Web-based material, gave the attorney-learners an excellent grasp of that material and a successful learning experience.13 Learner evaluations of the presentations supported this finding. The presenters also noted that a number of other factors contributed signifi-
cantly to the quality of the learning experience. Close proximity between
the presenter’s operational base to the teaching location eased communication
with technicians at the location. Closer locations also enabled the pre-
senters to make preliminary visits to smooth out potential problems. The
experience of site technicians with computer labs and continuing education
applications also affected the presentation quality, as knowledgeable per-
sonnel could be used as assistants during presentations. Conversely, dis-
tance and lack of experienced site personnel created difficult circumstances
for the presenters.¹⁴ Had subsequent presentation experiences been as posi-
tive, there probably would have been little impetus for the collaborative
CLE project in recognition of “if it ain’t broke, don’t fix it.” However, later
presentations convinced the client and his colleagues that something was
indeed broken.¹⁵

Succeeding presentations took place at increasingly greater distances
from the presenters’ home bases so that preliminary visits to the sites
were not feasible, good communication with technical staff suffered,
and remote technical personnel were not versed in continuing education
and not able to deal with network and other technical problems in an ef-
ficient manner.¹⁶ The more pervasive these problems, the less successful
succeeding CLE programs were, which resulted in negative evaluations.¹⁷
It was obvious to the presenters that, although the method was successful
under certain conditions, they could not rely on this approach because they
could not always exert control over those conditions.

The client and colleagues believed that successful CLE programs
could be developed that used online distance education as a platform
where greater control could be used. They were aware that this was not a
panacea but, even considering its drawbacks, the advantages to be
gained by employing online distance education made its use worth pur-
suing.¹⁸ Not long after this point was reached, the instructor contacted the
client, and the collaboration began.

DESIGNING THE SITE

Without preconceptions about how a site must look, and with Nielson’s
principles of usability, access, and functionality assimilated, students
were free to go to work designing whatever interface most effectively
met the requirements of the content. The client had a general idea of
what he wanted the site to do, but beyond that, he was open to possibili-
ties that might be presented in the course of the collaboration. First, the
site would have to contain a manageable number of sites to explore
within a period that would allow learners to obtain three hours of CLE credit. This objective differed from the number of sites available in the f-t-f CLE because not all of those were used during a presentation. Instead the presenters would decide which sites to visit, based on their relative importance, the amount of time taken, the interest of the learners in certain sites, and other issues that developed during the course of the presentation. The online CLE would have to generally stay within the three-hour limit in spite of the different rates at which the learners worked. One way of estimating the requisite number of sites was to test the CLE on a few people outside the project and observe how much time they spent on each task.

Another factor was the need for a question-and-answer format. The design team decided that the online version of the CLE would allow learners to take the course within a given span of time, such as a week or two, instead of requiring all learners to complete the course at the same designated time. This would allow learners to choose the time and context of the instruction. For example, during the one or two weeks when the course was offered, learners might wish to work on the assignments at home or at a time in the office when they were unlikely to be interrupted. To address the issue of lack of direction from the presenters in the f-t-f CLE, it was decided that directions would be included to guide learners through the site and, upon completion, to allow viewing of correct answers to the questions posed. Learners would then check their own answers against the correct answers in order to obtain instant feedback. No grading would be required just as it is not required in traditional CLE courses. By exposing the learners to a step-by-step guided tour of the various legal sites included in the online CLE, along with questions and answers, it was expected that they would obtain the same “excellent grasp of the material and a successful learning experience” as had been the case with the f-t-f presentations.

Design and ease of use were other considerations. The site was designed in such a way that it would be easy to use for a visitor seeing it for the first time. Its organization and navigation should be readily apparent to the user. It should contain all of the requisite parts while remaining simple and visually appealing.

The attitude of the class was reflected in a student’s comment: “We want it pretty, but we want it to work.” The team wanted to see if they could make an effective site that promoted usability both for the providers and the learners. The team eliminated as much extraneous material as possible, to reduce the time required for learners to master site navigation and to maximize the learners’ time spent studying the material.
The design model was iterative in nature and followed a plan for Web design and production. The process began with analysis of the learners, followed by the team’s creation of storyboards, and development of a paper prototype, tested by volunteers from the learner group and approved by the client. The prototype was then moved to a computer format to undergo several versions of testing and revision before the team would have a Web-based CLE course that would provide the same content as the f-t-f course.22

The class looked at some text-only CLE courses. These sites gave learners access to bare text documents and then tested them on assimilation of content. However, the team was not interested in content minimalism; students felt that these kinds of sites were not using the power of the medium. While usability was placed at a premium, the class was determined to maintain a high degree of interactivity and learner-centered participation as well.

One challenge the team faced was to design and develop an interface in which the attorney-learners could follow the course instructions and simultaneously navigate through the Web. Normally this would require opening one browser for the course instruction and another for Web navigation. The team concluded that having multiple browsers open would likely be disorienting for learners and would break the continuity of the course. Another option considered was for learners to navigate links from the course to the Web and then use the “back” command on their browsers to return to the course. This option seemed especially clumsy, with the learners at risk of becoming entangled in navigational complications. At worst this might require users to again “log in” to the course and start over.

The class even considered sending each learner a printed instruction package including navigational instructions in advance of the course. Finally, these ideas were all abandoned in lieu of a single Web interface. By following the iterative process, the team reached the conclusion that an interface in which Internet instructions and Web navigation could be accessed simultaneously in a single browser within a single navigational site-structure.

With the initial content in hand and a client meeting planned between classes, the students went to work on a site design prototype for testing. This would involve outlining, diagramming, and storyboarding the learning unit that the students would eventually build.

The class began its design process by creating an inventory of what they perceived as the essential Web site elements. Initially these included:
1. Splash Page: A splash page is simply a gateway to a Web site. It serves as a quick identifier. This page was intended to appear after learners went through the registration process and “logged on” to the CLE (see Figure 1).

2. Home Page: The Home Page was intended to be the second page a learner would see after linking from the Splash Page. The Home Page serves as a hub for the entire site, providing orientation, centralized navigation, and instruction (see Figure 2).

3. Tutorial: The class anticipated a need for a short Tutorial to acquaint learners with basic Web skills who were not familiar with Web navigation. The Tutorial would take learners through a sample course lesson.

4. Quick Start: Class members assumed that many lawyers taking an online CLE were already comfortable with the World Wide Web and would not require a tutorial. “Quick Start” was intended to link to individual lessons (see Figure 3).

5. Course Evaluation: Assessment is an important part of Web development. Students wanted to know what learners thought of the course and learners would be encouraged to give suggestions for future topics. The Law School was particularly interested in determining the demand for certain future CLE subjects.

6. FAQ: This, effectively, was Help menu. It would cover the problems the class considered most likely to be encountered by learners while taking the CLE.

The number of Web site sections loosely corresponded to the number of students in the class. Each student was given the responsibility to design one of the six sections for the course. Designs were submitted to the class for discussion and revision. A coherent design was developed and maintained for presentation to the client.

**COLLABORATION BETWEEN DESIGNERS AND CLIENT**

With a course design roughed-out on paper, a meeting was held between the entire class and the client. In the classroom, storyboards were laid out on a table for the client to view. To resolve the issue of learners remaining on a single page, it was decided that lessons would appear on a split-screen. One side would contain the lesson text, including legal questions to be researched on the Web and navigational mapping. The other side would contain a portal to the Web in which the learner could freely navigate to sites listed. The learners would find the answer to the
FIGURE 1. Splash Page. This page was used as a welcome to students and as a gateway to a Web site.

![Splash Page Image]

FIGURE 2. The Home Page serves as the instructional focus for the course, providing orientation, centralized navigation, and training on how the learner should progress through the course.

![Home Page Image]
question and then, in a text panel, check his answers by activating a small pop-up window. The advantage of this interface design was that learners would have all necessary course material on one consistent page and would not need to toggle between browsers or refer to written notes. This configuration lessened the risk of learner disorientation at the site. After a thorough discussion the client approved the initial course outline.

The client was particularly interested in the simple format presented by the students. It was obvious that a single page using a split-screen design would keep it simple while providing the necessary content for CLE learners. It became more obvious that this was the best approach when the alternatives were discussed, none of which seemed satisfactory.

**SITE DEVELOPMENT**

At this point, with the outline approved, the designated Webmaster went to work designing a working online interface. The following week the site was presented to the class and discussed. The initial interface was rough, but it instantly had a certain attraction. There was an increase in the sense of pride and engagement from the team as their own ideas began to take form online.
Site navigation was discussed, as well as design elements such as color, fonts, and graphics. Simply finding proportions for the various screen segments was a major concern. If a threshold to the Web was to be incorporated into the course interface, how much room should be given to each Web design element. If the Web frames were too small, it would not be representative of a full browser screen in which the sites would be explored in the future. Also, scrolling right and left inside of a window would be difficult. It became clear that it was imperative to give as much screen space as possible to the Web portal in which learners would have to navigate. Navigational buttons, course text, and graphics had to be minimized.

Eventually, the site’s banner was eliminated from all pages except the Splash Page and Home Page. Navigational buttons were moved to the top of the screen, and course content was moved to the right side in a narrow vertical strip (see Figures 4 and 5).

The following design elements were embedded in the final design (see Figure 2).

A. All navigational functions were possible from every page of the course. This was accomplished without sacrificing much screen space by moving navigation to the topmost horizontal portion of the screen. Because the navigation bar remains a fixed template on every page of the course, site orientation was not sacrificed. This obviated the need to return to the home page after beginning the course.

B. Instructions were placed on the right side of each screen and could be scrolled independently of the Web portal window. This eliminated any need for learners to toggle between multiple windows or appeal to printed instructions.

C. Links inside of the right text window called up pages inside the Web portal window. This feature made it possible for the Web frame window to double as an internal and external navigational device.

D. Answers could be checked at the end of each lesson by clicking on a “check answers” link inside the right text window. The link called up a small answer pop-up window (see Figure 5).

In this particular CLE, which was dedicated to Web research, site navigation was highly integrated with course content. Thus, the content largely dictated the course’s interface, a highly functional one for this kind of legal research lesson. Additional study is needed to determine if this interface would work for different content and in various contexts.
WORKING ON REVISIONS WITH THE CLIENT

During the next meeting the client was asked to attempt to take the course as if he were a student. Additionally, the client was asked to “think aloud,” telling the team what he was thinking while trying to figure out the navigation and course content, and to ask questions. The class watched and listened to this process with great interest and made every effort not to “lead” the client. Students were eager to determine whether he could navigate the course without verbal instruction, a vital feature for any asynchronous Web-based course. The mood was tense as the client moved from the Splash page to the Home page to the Quick Start page, lesson one and so forth. The client’s questions and comments, while he was performing the tasks necessary to complete the CLE, were used to revise and improve the instructional design.

This meeting was an exciting time for the client. He expressed that it is one thing to be apprised of plans for the site, see and hear the storyboard process explained and other areas of planning discussed, but it is quite another thing to actually see the operational site for the first time. Improvements could be made but they were mostly minor, and the overall effect was what the client had in mind.
After approximately half an hour it became clear that the site could be navigated without much difficulty. The course appeared to be self-explanatory, and lessons took the average length of time that they were expected to take, given that the CLE was intended to be three hours long.

The client paid particular attention to clarity of font, window size, etc. Navigation changes were not seen as necessary at this time. The client felt that the site was usable and would provide the learner with the training.

The biggest concern at this time was the instruction window and the size of type it contained. The type was easily large enough but there seemed to be too little space between the lines so that the viewer would not be at ease trying to read it. When the client pointed this out to the students, they agreed that the text appeared more jammed together than it should be for easier reading, and agreed to change it.

**MAKING REVISIONS**

After testing it became clear that the planned tutorial was not necessary because it did not add any additional training above and beyond
what was in the lessons. While the original course included a sample lesson for students who might need it, the link was removed from the course template.

The elimination of the Tutorial from the final CLE obviated the name “Quick Start” for the lesson hub. This simply became “Lessons.”

At the client’s request, navigation fonts and some colors were changed to increase readability. These were later made even more legible. The final buttons are white text over a black background. This is not only highly legible but it is in keeping with the rest of the Law School’s own Web site. The final look is readable and elegant (see Figure 6).

**FINAL DESIGN ISSUES**

There remained one obstacle with the interface that required a work-around. It was known that some Web sites on the Web contain links that cannot be opened inside of another Web site’s portal. These links force open a new browser window. The technical reason for this has to do with the behaviors assigned to the links in their underlying HTML tags. In an attempt to anticipate this difficulty, students tested the navigation of each linked site to identify and avoid incorporating these links within the course. Another solution was to insert detours around such links. This was possible wherever legal sites could be accessed via alternative navigational threads. There were other cases, however, where no workable detour could be found; and therefore, a few lessons had to be eliminated from the course content altogether.

Another issue faced by the design team was that course administrators would not be able to control accessibility to other Web sites. Due to Web rot linked sites may not be accessible at the time the course is taken. This is especially problematic in an asynchronous course in which students are free to take the course within a relatively large time window. This necessitates a warning in either a help menu or FAQ page. The students in this class chose the FAQ page for instructing learners to alert the course administrator by email in case such “broken links” were discovered.

The final Web site was the result of the design team’s working closely with the client, following the iterative process closely, and their commitment to developing a product that would improve learning (see Figure 7).
CONCLUSION

There is great potential for cost effective, collaborative design and development of online CLE in higher education between educational technology programs and law schools.

The benefits of online CLE to the legal profession include more affordable programs, increased accessibility to a wider array of course offerings, and more rapid dissemination of information relating to changes in the law.

Design and development of online CLE should include, at a minimum, consideration of the following topics: Usability, Accessibility, Content, Site Functions, Site Design, Site Assessment, and Coordination between subject matter expert and web designer(s).

Uses of iterative design methods are important techniques for graduate students in the field of educational technology, practicing lawyers, and faculty members in schools of law and education. This method should be useful for teachers and scholars in other fields who are interested in the promise of Web-based learning.

Online CLE is less expensive for learners than traditional CLE, with the possible exception of people who live near the CLE site and who would incur no travel, lodging or similar expense to attend the traditional CLE. However, even they have the “expense” of being away from

FIGURE 6. Final Home Page showing simplified navigation.
their place of work, and the “expense” of taking the CLE at a time not of their choosing. Even if the CLE was conducted on, for example, a Saturday, which might not normally be a business day, there remains the “expense” of taking the CLE at a time not of one’s choosing. By contrast, an online CLE as described in this article can be taken at the participant’s convenience, whether during the day on Saturday, or if preferred, between midnight and 3:00 a.m. It remains within the participant’s control when to take it, whether to break it into segments spread over time, or any other consideration to suit their own preference and situation.

Some CLE participants willingly incur the expense of travel to remote CLE locations and time away from work because it gives them a break, a chance to “get away” for visiting and networking with colleagues at the away location. That option could be enhanced by online CLE offerings. One could choose to travel when benefits call for it, or remain at home when the benefits of online CLE were greater. Nevertheless, attending training or meetings at distant locations is not a requirement of traditional CLE offerings. Lawyers can travel to non-CLE functions and still benefit from personal interaction with colleagues. Interaction between the class and the client demonstrated that an online CLE project of the kind described in this article could be designed and
implemented. Meetings between the class liaison and the client, and the class and the client, while maintaining careful communication, allowed these people from different academic backgrounds to work together to produce a successful product. The approach was that of a team effort and the result bore evidence of that satisfactory collaboration.

The successful development of an online CLE solved many of the issues the client and his colleagues had experienced in their earlier f-t-f CLE presentations. Problems with remote computer lab locations, whether of equipment, networks, lack of technical assistance or combinations thereof, were solved because with online CLE all that is required is Internet access, a browser, and a credit card. Travel time and expense were no longer considerations for either presenters or participants for the same reason. Likewise, time away from the work place for presenters and participants ceased to be of concern. What was sacrificed with online CLE was the f-t-f interaction among presenters and participants, which however, did not lessen the content. In fact, content can be increased in online CLE within the same course, compared to traditional CLE, because participants may work at their own rate. Those who work faster will cover more and those who work slower can take whatever time is necessary to learn the content.

Development of Web-based CLE courses that are well designed and that pay attention to learner and instructor needs should lead to increased learning through use of this exciting instructional delivery system.

REFERENCES

4. Ibid.
8. Id. at 58.
9. Id. 62-63.
10. Ibid.
11. Id.
12. Id. 67-69.
14. *Id.* at 67.
15. *Id.* 68-71.
16. *Id.*
17. *Id.*
18. *Id.* 69-71.
19. *Id.* 69-71.
20. Cite to the previous page.
21. Comment made by one of the students during a team meeting held during class time.

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