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Developing, Marketing, and Evaluating Web-Based Library and Information Skills Tutorials

by Cynthia Wright Swaine

Confronted with an expanding distance learning program, a growing set of student expectations, and recent changes in general education requirements, the Library Instruction Team at Old Dominion University is addressing the related needs for new approaches to library instruction by creating a series of web-based tutorials.

Needs

Last year Old Dominion University had nearly 20,000 registrations in its TELETECHNET distance learning programs, serving off-campus students enrolled in twenty-six programs at four regional centers; military, hospital, and corporate sites; and community colleges. In addition to Virginia students, the university serves distance learners in Arizona, Washington, the Bahamas and beyond.

Students have higher expectations than in the past about remote access to resources. Whether they live in dormitories on campus or in nearby apartments, whether they commute from another Hampton Roads city or take courses through the TELETECHNET distance learning programs, students want access anytime, anywhere.

With Old Dominion University’s recent changes in general education requirements, more classes in communication skills and computer skills will be offered. These additional course sections translate into many more library instruction sessions as the new requirements apply to each new incoming freshman class.

Web-based research assistance already in place

Prior to the development of online tutorials, librarians created a number of subject-specific and “how to” guides on a Research Assistance web page. Bibliographers created guides to online resources in their areas of specialization, and reference librarians transformed their printed guides into web pages by adding resource links. A series of miscellaneous guides covered all of the usual “how to” topics—how to find biographical information, how to find book reviews, etc. The Research Assistance page also contained a search strategy tool, called Start Your Research Here!, that could be considered the library’s first, although non-interactive, online tutorial.

In addition, librarians prepared several web pages relevant to courses for which they had provided in-person library instruction. For example, a library web page for a graduate history course provided links to primary resources online as well as listing other locations of such material in the Old Dominion University Libraries and in the Hampton Roads region.

Preparation for tutorial development

Recognizing the three major evolving needs, the Library Instruction Team decided that developing tutorials, especially some geared toward students in high-enrollment, highly research-oriented distance learning programs and some geared toward teaching general research skills, would be the best response. They acknowledged that web-based tutorials would allow students to learn at their own pace and at the time of day they preferred.

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One librarian began developing the first interactive tutorial, specifically for the nursing program, and other reference librarians followed in her wake, with at least two additional tutorials debuting each academic year thereafter.

Although the nursing tutorial was developed independently, using Netscape Composer and HTML, the other tutorials were done following a series of workshops on the principles of good instructional design and the use of Dreamweaver authoring software. Librarians learned about good web page design, the importance of immediate feedback, and the value of usability testing.

After identifying programs most likely to benefit from the tutorials, librarians began planning for tutorials in their areas of specialty. They made decisions about the skills that were most important to teach and how to teach them, about development time allotments, about the assistance that would be required, and about technical issues, such as whether or not to use frames.

As tutorial development progressed, the librarians shared experiences, frustrations, and tips with each other in the Library Instruction Team meetings. They called upon library systems staff and others with expertise for help in problem solving. They also received help from paraprofessional reference staff with some of the detail work, such as making links from terms in the text to the glossaries and structuring the quiz feedback.

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**Description of the tutorials**

**Search strategy skills**

The first tutorial, *Start Your Research Here!*, was developed as an initial option for the delivery of library instruction to distance learners in 1994. The printed library handbook for these students included pages on research strategy. When the web-based version of the search strategy pages was created it was enhanced with resource links. Finding and making appropriate links required less than a month. Although search strategy guides are generally seen as being a linear approach to instruction, this tutorial encourages students to move among the different sections in a non-linear fashion, depending upon their needs.

The one completely new element was what the developer termed an "idea generator," aimed at giving students an easy way of choosing a topic for a paper or speech. The tutorial was marketed through flyers to distance learning sites, library newsletters, faculty workshops, and a listing on Yahoo!

During the spring semester of 2000, the tutorial received 23,186 page views and tallied 19,160 user sessions. It is clear that not all users are Old Dominion University students, however. Frequent feedback on the *Idea Generator* provides a constant source of new topics to add to that portion of the tutorial.

**General library and Internet skills**

The instruction services librarian and the humanities reference librarian collaborated on development of *StarQuest*, subtitled *Success Tips for Academic Research*, a tutorial designed to help students learn general library and Internet skills. Two target audiences were distance learning students and those enrolled in English composition classes. The latter group was included because of the projected continued expansion in the number of sections of English 111 and the possible extensive use of a tutorial in the future, in lieu of the traditional in-class session with a librarian.

Development work was a high priority for four months for two librarians, with much additional technical support. Debuting in the spring semester of 1999, *StarQuest* includes sections on most aspects of library research, the Internet, and plagiarism. Features include quizzes with immediate feedback, a glossary, and a final exam for which results are sent electronically to the instructor. A discussion forum and evaluation section were included but not actually used.

The tutorial was promoted through the English Department's coordinator of composition, direct e-mail and snail mail to faculty, library newsletters, flyers to distance learning sites, and faculty workshops. Spring semester of the year 2000 saw 1,046 page views and 863 user sessions.

A study to compare skills acquired through an in-class session to skills acquired through the tutorial, as well as to skills acquired through a combination of the two methods, is being carried out this year. The first semester results showed no significant differences in student learning no matter which method was used.

**Nursing**

The first genuinely interactive tutorial came about through collaboration between a librarian and a faculty member in the College of Nursing and was launched in the fall of 1998. *Using Information Sources: Nursing* was designed to serve all Old Dominion University students doing nursing research, although the original focus was on one spe-
cific course comprised of both on- and off-campus students.

Initial development took three months of intense work, then one month for revision each year afterward. Revisions took as long as they did because of the switch from SilverPlatter's version of CINAHL to the Ovid version and the desire to include new elements.

The tutorial includes interactive quizzes, a discussion forum, a glossary and guided searches of the CINAHL database. Initially, only the faculty member who collaborated with the librarian required her students to complete the tutorial; later, others followed suit. Approximately 100 nursing students completed the tutorial during the first semester of availability, and 400 did so the following fall. In the spring semester of the year 2000, this tutorial had 995 page views and 473 user sessions.

Marketing was carried out largely through a demonstration at an in-service training session for faculty. An evaluation page is included and has generated much favorable comment about the tutorial. In addition, the developer has received many e-mail messages of inquiry and appreciation through a contact link in the tutorial.

Criminal justice

The criminal justice program is one of the largest distance learning programs consistently requiring library research and, thus, was a natural subject for the next tutorial. The social sciences reference librarian patterned Using Information Resources: Criminal Justice, first made available in fall 1999, on the nursing tutorial.

Development took two to three months of high priority work. The content of the seven chapters and the navigation devices is intentionally simple. The intended audience is both on- and off-campus undergraduate students. Besides the automatic feedback on quizzes, an interesting feature is the certificate of completion a student can print and turn in to the instructor. Marketing was done exclusively after the tutorial was developed. Instructors of three courses now require students to take the tutorial.

In the spring 2000 semester, 1,667 page views and 473 user sessions were tallied. Although an evaluation element was not built into the tutorial, a printed evaluation sheet was designed by the librarian and given to students by the instructor at the time of the end-of-semester course evaluation. Feedback has been very positive. FindLaw now provides a link to this tutorial under its section on resources for law students.

Education

Using Information Resources: Education, a tutorial for distance learning students enrolled in education courses, was first used in the fall 2000 semester and follows the style of the earlier nursing and criminal justice tutorials. It is intended to be a basic tutorial covering standard library resources in the field, including government, tests, and measurements information.

Development took place over fifteen months, with marketing to faculty accomplished primarily through one-to-one contacts and library newsletters. Plans for enhancement include the use of frames to allow students to try out live sessions on databases. Quizzes and an evaluation section are included in the tutorial.

Business

The business reference librarian concluded that the best approach to creating a tutorial to meet the needs of students in the College of Business, particularly those in marketing, management and accounting, would be to focus on company and industry research skills. Thus, the latest tutorial to appear, in the fall of 2000, is titled Industry & Company Research. The tutorial is highly interactive, requiring students to accomplish tasks throughout, using a form that they print at the outset.

Although the primary audience is first- or second-year business students, it is thought that the tutorial will be helpful to MBA and pre-dissertation students as well. During the four-month development process, the new business librarian discovered interests of the faculty she would be working with in collection development, reference, and instruction. The librarian encouraged faculty to try out the tutorial and provide feedback during the summer prior to its publication. This marketing technique proved successful and some instructors decided to include the tutorial as a course requirement for the fall.

New tutorials, new approaches

Development of science tutorials, including ones for psychology and biology, and enhancement of present tutorials with frames and personalized approaches, such as the use of photographs and audio messages, is now underway. A committee is being organized to develop guidelines and a template for future tutorials. The committee will review all such development projects to ensure standards and instructional objectives are being met.

Conclusions

The Library Instruction Team reached a number of similar conclusions to those of other librarians who have developed tutorials. Among these conclusions are:

- The task of developing a good tutorial takes many hours.
- Immediate feedback is important to students.
• Interactivity helps students stay alert and presumably learn better.
• Discussion forums do not seem to work well unless students are required to participate.

However, our librarians discovered that contrary to current thought, collaboration between faculty and librarians from the outset to ensure tutorial use is not the only way to achieve success. The nursing tutorial was developed following the accepted practice of a single librarian/single faculty member collaboration. *Industry and Company Research* was developed with input from a handful of faculty members over time. Development of *StarQuest* was agreed upon in a meeting of key English composition faculty and the Library Instruction Team, but no interaction with adjunct instructors who would use it took place until the tutorial was nearly complete. The criminal justice tutorial was developed without any collaboration with faculty and marketed to them upon completion.

No matter how collaboration took place or even whether collaboration took place, the Library Instruction Team found that an excellent tutorial based upon course or program needs can be successfully marketed and can become an important course component. Different approaches to development, marketing, and evaluation worked well, with no clear winner.

It was also clear that both simple formats and more complex interactive ones can enhance learning, with some learners preferring one style or the other. The experience level of the students, as well as the capabilities of the computers they use, has a lot to say about what style of tutorial delivery they find most appealing.

Some further conclusions include:
• Expert technical support proved to be invaluable, as did informal support from experienced colleagues.
• It is essential to do some usability testing, even if only a few subjects participate.

**Different approaches to development, marketing, and evaluation worked well, with no clear winner.**

• Evaluations of the tutorials and assessment of learning are both important, but there seems to be no one best way to incorporate these elements.
• It is very important to update the tutorials whenever necessary and to look them over completely with an analytical eye at least once a year.
• A standards committee may be needed to ensure development of high quality products.

Online tutorials are not the single answer to instruction for all students. They are one important means of providing information skills instruction, but should be complemented by an array of web-based guides, librarian-developed course web pages, in-class instruction, and personal assistance.

**Bibliography**


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