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Innovation on a Shoestring: An All Virtual Model for Self-Paced Library Orientation on an Urban Campus

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Introduction

Academic libraries of all sizes face the challenge of providing new users with information on how to use their libraries successfully. The reality of low librarian-to-user ratios and financial restrictions mean new ways of instructing large, diverse populations are required.

During the summer of 2002, in order to address concerns about the numbers of new students requiring an introduction to the library and basic library instruction, members of the reference and instructional departments began to brainstorm ideas about accomplishing some of the library's instructional goals virtually. The end result was a virtual instructional package called VOILA! (Virtual ORSEM Information Literacy Tutorial, available at <http://libraries.hunter.cuny.edu/orsem/voila.htm>).

One of the primary goals of VOILA! was to prepare first year students from the Hunter College Orientation Seminars (ORSEMs) for the research orientation they would later receive in first year English composition courses. The development team included a group of librarians from the Hunter College Reference/Instruction department, a colleague from the libraries' technical support staff, and a colleague from the libraries' Systems staff. The emphasis on instructional content meant each of the modules had a specific focus, but as a group, they provided a broad overview of library services and step-by-step instruction on how to locate, recognize, and evaluate different types of library materials.

Implementation of VOILA! called for collaboration between the Hunter College Library instruction department and the Hunter College First Year Experience program. Collaboration was important for the success of the project. Varner, Schwartz and George (1996, 358) suggested that librarians collaborate widely with other faculty and academic units, in order to develop "a vital place" in the changing curriculum. This collaboration allowed the VOILA! pilot to be tested on a pre-determined group of students, and also meant enhanced communication with the partner department and the opportunity to build a positive relationship to support future ventures.

Participating students were required to view the VOILA! modules and take an online quiz upon completion. About 800 students participated in the first pilot phase of VOILA! VOILA! consisted of a reference tutorial, a call number tutorial, a virtual library tour and a quiz. The VOILA! gateway page welcomed students and presented a user-friendly set of instructions.

[FIGURE 1 inserted here]

Background

The Hunter College Libraries at Hunter College are a nexus of information and academic activity that provide service on an urban campus of 20,000 students in New York City. Hunter College is one of the 19 City University of New York (CUNY) schools, located in Manhattan. It is a highly urban campus where most students use subways and buses to commute from their homes, which are often located in distant neighborhoods. The CUNY system is a major urban university system composed of two-year colleges, four-year colleges, and a PhD-granting graduate school. One of the oldest CUNY schools, Hunter enrolls more than 18,000 undergraduate and graduate students in a wide range of liberal arts and professional programs, with both full-time and part-time options. Hunter College is a reflection of New York City, where a wide variety of cultural, national and socioeconomic groups coexist.

Many Hunter students are native New Yorkers, however, a large percentage of Hunter students come from outside the city. Echoing recent immigration trends to New York City, the student population represents more than 80 different countries. First year Hunter students epitomize this diversity, in that 27 percent hold green cards and 42 percent speak a native language other than English. A majority are the first to attend college in their families, and approximately 60 percent hold at least one job in addition to attending school. The average age of undergraduate students is 26. While many first year students enroll directly from high school, a significant number are returning to college after a long absence or have transferred from two-year colleges.

Hunter students arrive with widely divergent research and critical thinking skills; therefore, librarians view interactions with first-year students as the first step in establishing a set of common information literacy competencies. The VOILA! project was developed with this in mind, and designed in part to facilitate students' initial library interaction.

Justifying a Virtual Model

The VOILA! development team identified several justifications for implementing a virtual orientation program. They were: ineffectiveness of "live" orientation efforts, importance of the hypertext landscape for instruction efforts and its impact on active learning, and efficiency (making the most of available human and material resources while still meeting student need).

The Hunter College Library (physical and virtual) is one of the most frequently visited departments by students. Before VOILA! was developed, Hunter College first year experience students visited the library for a one-time, in-person orientation and tour. This type of one-shot library visit has received mixed reviews from both students and library staff over the years. As early as 1974, library professionals saw evidence that the traditional "library tour" was being replaced by self-guided media tours of the time (Lynch 1974, 259). Varner, Schwartz and George (1996, 358) found that new students had ambivalent reactions to these library sessions. Understandably so, as the amount of material is often overwhelming. Without context (such as an assignment or project), students often feel the material irrelevant at the time it is presented.

It was also important for the VOILA! team to try and assess the impact of Web-based learning on students. Wegner, Holloway and Garton (1999, 104) found that computer-based instruction was particularly suited to learning how-to skills, such as locating and using information, just the type of skills VOILA! was attempting to teach. In the same study, findings suggested that students who went through "live" classroom sessions showed no significant difference when compared with students who went through virtual sessions with regard to achievement. However, the virtual group showed a higher rate of satisfaction (Wegner, Holloway and Garton 1999, 105). These factors were key in deciding to experiment with a virtual orientation model.

Tiefel (1995, 326) highlighted the importance of utilizing technology to provide library and information instruction. While the use of technology was important in the design of VOILA!, of greater importance was how it was used. The hypertext landscape has provided countless opportunities to design web-based learning tools for a variety of different learning styles. According to Dewald (1999, 29), information provided in small blocks with parts and sub-parts is easier for students to absorb; in the case of VOILA!, information presented in small blocks helped students to organize the information they learned in ways most useful to them. Dewald stated, "the hypertext landscape was originally designed to allow the user to select their own paths through information, and the best web-based instructional programs facilitate this as part of an active learning process" (1999, 30). VOILA! made full use of the hypertext environment -- users were able to choose their topic, choose their own sequence for discovery and follow links that would provide information in different ways.

Allowing students to experiment as they went through the modules was also important. Varner, Schwartz and George (1996, 357) suggested that students wanted not only instruction about how to use library resources but the opportunity to experiment with electronic resources such as library databases and library catalogs, at the time of the instruction. VOILA! supported active learning in this manner; it provided links to the library catalog, databases and other resources highlighted in the various instructional modules. This allowed students going through the reference tutorial to access the library catalog directly and practice finding a book or journal title, then return to the tutorial. The VOILA! learning space utilized interactive components and a user-friendly interface to keep students focused and engaged.

One practical justification for a virtual model had to do with the efficient use of available human and material resources. Hunter College Library faculty teach an average of 150 content-driven English composition and other classes each year, and the demand for this type of instruction continues to increase. This increasing demand reinforced the need for a model such as VOILA! to provide students with basic library skills. VOILA! addressed this demand in two key ways: it laid the groundwork for future instruction, thus theoretically reducing the number of similar interactions at the reference desk, and its electronic nature meant library staff had more time to concentrate on preparation for the English composition courses.

The initial work required to create and implement VOILA! was very time consuming, as is the case with many newly developed electronic products. Initially, quizzes were submitted electronically but graded by hand. System bugs and other errors found in the various modules had to be corrected and updated by systems staff on an ongoing basis. Content management was done by library staff, as were any revisions to the tutorials themselves, tasks which also proved to be very work intensive. During the second semester of VOILA!, the amount of time spent on these types of administrative tasks dropped considerably, as time-saving features like electronically graded quizzes were added.

The Virtual Library Orientation Landscape

Asynchronous electronic instruction such as VOILA! is not new, and there are a host of campuses who have implemented similar programs. While not all college students have used the Internet, many students currently entering college are familiar with the World Wide Web and have at least experimented

with searching, navigating, and finding what they need. This meant that a Web-based platform for VOILA! was not foreign to most participating students.

Today's virtual orientation landscape includes a variety of alternatives to earlier library orientation methods. In 1999, the Morris Library at Southern Illinois University designed a Web-based instructional package to replace more traditional library orientation sessions. The Explorer program (<http://mccoy.lib.siu.edu/explorer/>) successfully provided a Web-based, multimedia approach to library orientation and just-in-time basic reference instruction. Explorer emphasized the students' ability to learn at their own pace and incorporated various types of multimedia.

At UCLA's Rosenfeld Library, library staff re-designed their Website to provide an interactive gateway to library services and instruction (<http://www.anderson.ucla.edu/resources/library/>) with the same emphasis on self-pacing. The re-designed site included "web-ified" library products – pathfinders, handouts, and tutorials – made over for presentation on the Web (Borah 1997, 8).

At the University of Tennessee, the library staff developed a streaming-video library orientation, a project which highlighted one of many potential uses for this type of multimedia in libraries. Streaming video clips were used to orient students to the library space, the library catalog and database searching techniques.

The University of Michigan at Ann Arbor recently implemented Searchpath (<http://www.lib.umich.edu/ugl/searchpath/>), a Web-based tutorial with 6 components. Users can review tutorials on choosing a topic for research, finding journal articles and books, and citing sources. Searchpath was originally developed at Western Michigan University, and is available for other institutions to use under the school's Open Publication License agreement.

Perhaps one of the better-known online library tutorial programs is the Texas Information Literacy Tutorial or TILT, at the University of Texas (<http://tilt.lib.utsystem.edu/>). TILT was sponsored by the University of Texas Digital Library system, and features 3 tutorials that focus on selecting, searching for and evaluating resources. There are also follow-up quizzes for each section.

The VOILA! Components

One of the major challenges of VOILA! was to present material that was by nature unexciting in a way that was engaging. Just as important was motivating students to participate and developing a

product that was mission-consistent with other Hunter College Library instruction programs and activities. Finally, the VOILA! design team had to consider the best way to reach a diverse student population, many of whom had a language other than English as their first. Each VOILA! component was therefore designed with these complex factors in mind.

VOILA! consisted of four modules: a reference tutorial, a call number tutorial, a virtual tour, and a quiz. These modules were tied together and packaged as a hyperlinked unit. In line with developing a new method for library orientation and basic instruction on a shoestring budget, two of the modules were modified versions of material previously designed (the reference tutorial and the call number tutorial) and two of the modules were designed from scratch (the virtual tour and the quiz).

The Reference Tutorial

The reference tutorial was based upon the Information Competency Tutorial originally designed by librarians at California Polytechnic State University. It was modified for the City University of New York (CUNY) by CUNY librarians and modified for further use in VOILA! by a Hunter College librarian who participated in the design of the CUNY tutorial. The tutorial focused on three areas: finding information using print reference sources, using the online library catalog, and using indexes and abstracts. Library staff had observed students frequently having problems grasping the concepts involved in navigating certain reference sources, so the VOILA! tutorial provided web-based instruction that utilized graphics to illustrate many of these concepts. The tutorial was conceptual in design, and large, clear images were used to enhance the overall presentation of the material, combined with step-by-step instructions.

[FIGURE 2 inserted here]

The Call Number Tutorial

The Call Number Tutorial provided a detailed overview of the components of a call number, instructions on how to read a call number and how to locate the materials in the library. The module was interactive with exercises that required students to place call numbers in order, and to describe the different parts of a call number. The call number tutorial was of particular importance, as students at Hunter are frequently confused by what appear to be a meaningless set of letters and numbers. The interactive portion of the module also illustrated how books on the same topic would be in the same location on the shelf. The layout of the tutorial included large images and clear, simple instructions.

[FIGURE 3 inserted here]

The Virtual Tour

The Virtual Tour was designed from scratch. Before work on the tour began, feedback was gathered from students on what type of information they would like to be able to find using a virtual tour. Oversized floor maps and photographs of where things were located were very important features. The initial virtual tour was presented in a web-based html format only, with no audio or other multimedia components. The goal was to create a dynamic tour that was easy to navigate and quick to download. Short descriptions of library services, programs, locations and features were provided. Large floor maps of each floor were used to convey a sense of location. The tour layout was designed to allow users to search for information by floor or alphabetically by name of service or feature.

[FIGURE 4 inserted here]

The Quiz

The quiz component was one of the more challenging modules to develop. It required the know-how of a staff member with a background in instructional design, a fair amount of research and review of the types of instruments other libraries had used. Library staff came up with a broad set of categories, based on the other 3 modules, and an initial set of questions was developed. The questions were then refined and evaluated for accuracy and clarity. The team working on the questions also decided that ongoing evaluation of the quiz and its effectiveness would be necessary. To that end, different methods for evaluating the reliability and validity of the quiz were developed and implemented.

Initial feedback from students indicated the quiz was rigorous. The quiz initially consisted of a total of 42 questions, and included 21 multiple choice items, 10 true/false statements, two matching exercises and 4 fill-in-the-blank questions. Attention was paid to how each question was stated, as well as its overall placement in the quiz.

It was important that the quiz be interactive and provide task-oriented exercises. The students were asked to demonstrate how they would organize a set of materials on the shelf by call number, how they would find or search for an item, as well as about where they would find a service or program located in the library. Answers to all of the questions were taken directly from one of the other three modules. Questions pertaining to the library's online catalog were among the most-frequently missed items.

Preliminary evaluation of the quiz results provided valuable information that aided in revising the quiz. Students were confused by questions with negative phrasing in the stem, so the wording was changed. Students also seemed confused by one of the questions that asked them to construct an author search for the author, Achebe Chinua. It was not clear to students which name was the first name for this particular author, so the question was changed and another author chosen. After the first semester's implementation, these and other changes reduced the number of questions on the quiz to 32, without changing the content of the tutorials. Layout for the quiz screens incorporated use of icons, images and easily readable text.

[FIGURE 5 inserted here]

[FIGURE 6 inserted here]

Students who completed the online quiz submitted their results electronically. Quizzes were automatically graded using QuizTest v3.0, a free Perl CGI program available from the Scripts for Educators Website (<http://www.tesol.net/scripts/QuizTest>). Features of QuizTest included student score viewing, timed quizzes, and detailed statistics on quiz scores and results. This program was relatively simple to implement and easily customized to fit the needs of VOILA! Quiz results were routed via e-mail to course instructors for recording.

Evaluating VOILA!

Students participating in VOILA! completed a survey soliciting feedback about their experience. The results indicated that students liked navigating the tutorials on their own, and deciding which modules to view. During VOILA!'s first semester, an estimated 67 percent of the students chose to visit the library before taking the quiz. Many students found the virtual tour and reference tutorials helpful and about 60 percent reported that they felt competent finding items on their own in the library.

Quiz scores for the Fall semester group were of great interest to the development team. Results provided some insight into how much students had learned and how effective the presentation of the tutorials was. To determine the average performance level of the students, a sample of 158 quizzes was drawn from the 600 submissions for the Fall semester. The average score was 30. The highest possible score was 42, 1 student scored a 40, and 2 students scored the lowest recorded score of 20. There were two modes for the results: 15 students achieved a score of 28, and 15 students achieved a score of 32.

The scores were broken into four categories for interpretation. Scores of 37 or more were classified as “power users”; scores of 32-36 indicated students had a good understanding of library materials and their arrangement within the library; scores of 28-31 indicated students had learned quite a bit about the library. Students with scores of 27 or below were instructed to re-visit the tutorials.

Additional instruments for the ongoing evaluating of VOILA! are currently under development and will aid in increasing the overall effectiveness of the program.

Conclusion

The Hunter College campus is a dynamic, urban setting that required a “shoestring innovation” approach to library orientation and initial instruction - effective, creative, and low-cost. The VOILA! pilot revealed that low-fidelity, Web-based library orientation is a viable means of providing students with an overview of library services and initial library instruction.

While the development of VOILA! required a great deal of staff time, it was a relatively inexpensive project. Key to the project’s success were the use of pre-existing tutorials combined with new materials, and the specialized skills of various staff members, whether technical or otherwise. Ongoing evaluation of the project will hopefully lead to enhancements that are well thought out and easily implemented. The design and development of a virtual library orientation program need not be expensive, difficult, or overly technical.

VOILA!’s content presented a broad overview of library services and step-by-step instruction on how to locate, recognize and evaluate different types of library materials. VOILA! incorporated technology and use of the web seamlessly into the current Hunter College Library instruction program, and has proved a viable model for implementation on an urban campus.

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QuizTest v. 3.0., Copyright 1996, Kristina Pfaff-Harris, Reno, Nevada.

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