Project 5  Academic Course Website – Y603 Site Development and Evaluation

Context

This project was completed from Fall 1998 through Fall 1999. The project started as a class project for R641 – Instructional Development and Production II, taught by Professor Elizabeth Boling in the Instructional Systems Technology department at Indiana University Bloomington. My project team continued to evaluate and revise the website throughout the following year, culminating in a paper presented at ED-MEDIA 2000 in Montreal.

Conditions

The project team consisted of three IST students: myself, Chris Essex, and Pamela Song. We created all website graphics and programming ourselves. Most of the content for the website was provided by the project sponsor, Professor Joanne Peng.

Scope

During the course timeframe, we developed the website and conducted preliminary usability testing with Professor Peng and several of her students. After the class ended, we continued to monitor the use of the website, conducted post-use surveys for two semesters, revised the website based on student and instructor feedback, and wrote the paper for presentation at ED-MEDIA 2000. All work was completed in Spring 2000.

Role

Every member of the project team shared responsibility for writing and creating content for the website. We divided other roles, however. My major role in the website part of the project was to program each web page, including javascript features and using metadata tags as necessary. I contributed equally to the design and conduct of our follow-on research during the subsequent year, and I played a major role in preparing and delivering the presentation at ED-MEDIA 2000.

Included Excerpt

In this portfolio, I have included several annotated screenshots of the online course, the ED-MEDIA proceedings paper, and the presentation slides.
This is the main page for the website. We organized the site contents by function and provided links to each function’s main page on this page. Approximately ninety percent of the site contents is accessible with 2 clicks from this page.

Our client asked for a “friendly, welcoming” look and feel, since many students who enroll in this course are intimidated by the statistical content. This led to our use of the soft color scheme, rollover buttons, and an encouraging tone in the text throughout.

We included several javascript functions to provide a “time of day sensitive” welcome message, and two alternative navigation methods; 1) search, or 2) drop-down list of links. The alternative navigation functions are used throughout the site. In testing, each of the navigational methods was used by at least one tester to meet most of their navigation needs.
This page provided a list of external resources that students could use to help them learn the course content. Our project team identified many of these by searching the web and experimenting with resources we found there. We recommended a list of resources to our client, and she selected several from that list to use on this page.

The main navigation scheme on the top of the page is consistent with the site’s main page navigation. Including it at this level maintains the “2-click” feature – 90% of the site contents is available within 2 clicks from any of these functional-area main pages. We also added a secondary level of navigation to link within this page, since the page is several screens long.
Our client was so pleased with this project that she insisted we include brief biographical information about ourselves.
A Course Website a Year Later: Lessons Learned

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Abstract: This paper is a report of the findings of a study that describes the development, evaluation, and revision process for an on-campus graduate level Statistics course website. Focus groups, interviews, and document analysis were examined to determine patterns and amount of student use during the website’s initial semester of use. Findings indicate a lack of integration into course activities contributed to minimal student use of the website throughout the semester. Student expectations about the currency of information on a course website suggest that regular review and updating of on-line materials should be planned for and accomplished. If on-line conferencing is to be part of a course website, it needs to be both required and structured by the instructor to be successful. Finally, a comprehensive review of printed course materials should be performed in order to ensure that website contents are not simply a redundant collection of course materials.

Introduction

Since 1994, when the worldwide web became available to most colleges and universities, the number of websites for on-campus courses has grown exponentially. The World Lecture Hall, a directory of these websites at the University of Texas-Austin, lists 129 websites in the field of Education alone, and this listing is far from comprehensive. But too many of these websites, we would argue, are thrown together quickly, almost immediately become outdated, and do not effectively serve the needs of the students taking the course, their primary audience. And once created, these websites often tend to be ignored by the instructor, becoming outdated and irrelevant, filled with useless information about past semesters and a graveyard of dead links.

This paper describes the systematic design and development process for a graduate-level statistics course website, with a special focus on the continuing development and revision process after the initial semester of use of the website is over. We wanted to discover how the website had actually been used during the course of the semester, and how it met, or failed to meet, the needs of the students and the course instructor. We also undertook a careful review of the website usage logs to determine patterns of use.

The design team consisted of three advanced doctoral students from the Instructional Systems Technology department at Indiana University. During the initial design process, the project team followed a common instructional design and development model. Major sections of the design effort included: analysis of the task and audience, prototype design and testing, design revision and full-scale development, final usability
testing and revision, implementation and summative evaluation. In this paper, however, we will focus our
description and analysis on our post-instructional website development activities.

Methods

Our analysis in this study focused on two major questions. The first question was, “How (and when,
and where, and why) did the students actually use the course website?” The second question was, “Based on the
patterns of student usage found in the initial semester of use, what changes in the course website (in terms of
content, structure, etc.) need to be made?” To answer these questions, we conducted focus groups of a random
sampling of students who had just taken the course. This was followed up by a survey of the entire population
of students who had taken the course. The instructor was interviewed about her use of the website and her
perceptions of student use. Finally, the website usage logs were carefully analyzed

Focus Groups

A random sampling of students enrolled in the Spring 1999 section of the course were invited to focus
group sessions to discuss their use of the website during the semester. A sequence of questions was developed
for these sessions by the design team, and additional questions were added during the sessions themselves.
These questions were chosen to gain an understanding of several issues: which sections of the extensive website
were most commonly used; the ease of use of the website; the times during the semester that the website was
used, and the tasks associated with that use; and those aspects of the website that were incomplete or lacking.

Surveys

With that data in hand, we then sent, via email, a survey to all of the students who had taken the course
in the past semester. The survey was designed to help us confirm the findings, and assure us of the accuracy, of
our focus group data. The survey asked the students questions similar to those asked during the focus groups,
simply revised and refined versions to fit the survey format.

Instructor Interviews

Throughout the semester previous to the first usage of the website, and during the website’s initial
semester of use, we had met with the instructor of the course, a tenured professor in the Counseling and
Educational Psychology department. We again met with her, just before our focus groups with the students, to
gain an understanding of her use of the course website during the semester, how she had introduced the website
to the students, and her perception of the amount and quality of student use of the website.

Document Analysis

We had access to the usage logs for the course website, which gave us information on how often each
page (of the over 100 web pages of the site) was accessed and when it was accessed during the semester. We
were able to determine the most popular pages on the website and the days during the semester that the website
was most often used. This information was compared with the course schedule to help understand patterns of
student use as they related to course assignments. We were also able to view aggregate information about
website visitors. This information helped us determine whether the students were accessing the site from
computer labs on campus, dormitories on campus, or through dial-up connections.

Findings
**Student Use of Site**

Unfortunately, we found that the course website was not used much during the initial semester, according to the students we talked to. Server logs back this up, though use did increase from 729 page requests in January to a high of 5162 requests during March, before falling back to 765 students again in May, as the course was ending. For comparison, another course offered by the same department had 10571 requests during March, almost twice as much activity (Bonk, 2000). As one student noted regarding the website, “Didn’t use it much. Didn’t have to.”

Students indicated that the professor’s reference to and use of the website in course meetings was minimal. Several mentioned that they might have used the website more if they had a better understanding of its contents. During one of the focus group sessions, one particular student discovered many useful and interesting resources when he was reviewing the site contents. He commented that, “I am currently working on a research design and I can really use these resources right now. The instructor should have emphasized this more during the class.”

**Technology Details**

The campus provides both Windows and Macintosh computers in student computer labs, and both platforms were used to access the site. The server logs confirmed student reports that they accessed the website from university labs, dorms and libraries and off-campus homes. Both high-speed networks and slower modems were used to access the site.

Both Internet Explorer and Netscape web browsers were used by students to access the site. Interestingly, many students reported using both web browsers depending upon the location from which they accessed the site. Perhaps surprisingly, students reported no technical problems accessing or using the site, even though it included advanced Javascript features on every page.

**Site Content**

Students primarily used the site for one purpose: viewing and printing examples of assignments and bibliographies (which were not in the course reader) as models for their own work. The article review samples and bibliographies were cited by many students as by far the most useful elements of the site. For example, in March and April, 1999, during the part of the semester that the students did the majority of their assignments for the course, the page that included links to these items was the second most popular page on the site, after the home page.

Other sections of the site that were favorably mentioned were: the links to information about the software that was to be used in the course, sample questions for the test, instructor contact information, and the links to professional journals. Students reported that they occasionally recommended the site to other students or referred peers to information they found on the site, especially information regarding assignment completion. One feature of the site, the bulletin board, a feature that can produce much site activity, was not used at all, and some students commented that they wished it had been used. One student said, “The discussion section would be helpful for after-hours help.” Normally when the students sought after-hour help, they sent email messages to the professor. The professor would send a reply directly to the student and forward a copy of the message to the whole group. Students commented that the communication between students and professor might have been more efficient if the bulletin board had been used.

Some students mentioned material that could have been included on the site but wasn’t, such as: links to the library’s online article search systems, answers to lab assignments, lab assignment handouts, case study examples, and sample problems to use with the statistical software. One student complained that while they read from several books, only the readings from one of the books were included on the schedule. Some of the content, specifically examples of studies cited in the bibliography, seemed out of date to the students as they were several years old. The list of scheduled readings was also out-of-date, referring to the schedule of a past semester.

We got the strong indication from students that because use of the site was not necessary to be successful in the course, they therefore had little motivation to visit it. Several commented that because much of
the site’s contents were already in their printed course reader, it was not necessary to access them via the website.

Site Design

Overall, students reacted favorably to the look of the site and the utility of the navigation options. Several students commented that they appreciated the large image on the home page and the color scheme of the site (Fig. 1). One student said the site was “fun looking,” though another complained that the light blue of the central image made the site look “faded.” After extensive usability testing, detailed earlier in this paper, several methods of navigating the site (menu bar, sidebar, search, pulldown menu) had been provided for student use and each of these systems was in fact used by some students in our focus group interviews, though some showed strong preferences for one system over another. For example, one student said, “I never used the buttons at the top, I just used the links at the bottom.” Students pointed out that some secondary pages lacked the navigation elements found on primary pages of the site.

The website did not influence student’s feelings about the course in general; however, some students felt Dr. Peng was a strong advocate of instructional technology because she had her own website.
Recommendations

Based on our findings, we have made the following recommendations to the instructor of the course.

• A careful review of the contents of the printed materials given to the students needs to be made. Which of these materials would more appropriately be provided in print form, and which in online form? Are there materials that should be available in both formats?
• Students expect online resources to be regularly updated, providing them with the most current information available. Because of this student expectation, materials on the website should be periodically reviewed and updated to reflect changes in the course, related materials, and on-line resources.
• The instructor should consider methods by which the students can be made more aware of the resources contained on the website from the very beginning of the semester. Perhaps part of the initial class session should be used to introduce the website. Throughout the semester, the instructor could also point out occasions when the website could be profitably used.
• Course activities which require more use extensive use of the website resources should be integrated into the course.
• The instructor should take advantage of the interactive potential of the website by providing opportunities for students to discuss issues related to the course. Specifically, if the bulletin board conferencing tool is to be included as part of the website, students need to be made aware of its existence and encouraged to participate in the discussions. We suggest that use of the tool should be made a required part of class participation, since, in our experience with courses using such tools, unless use is mandatory, some students will only minimally use the tool and many will avoid it altogether. (ARTT: Practical Strategies for Using IT, 2000)

Limitations and Recommendations for Further Study

While we do not claim that our experiences are generalizable beyond this particular website design project, we do believe, based our experiences as instructional designers for other course websites, that our findings and recommendations will be useful to other instructional designers working on similar projects. Regarding the limitations of this study, obviously it is only one course of around 35 students, and the particular subject of the course, statistics, may have had some important implications regarding the students’ use, or lack thereof, of the site. Also, the fact that the website design team also interviewed and surveyed the students may have had some influence on their responses, though we attempted to minimize this.

Conclusions

Course websites, even given their growing numbers, are still a new resource for instructors and students; they are exploring an unfamiliar realm when it comes to using this new technology in their teaching and learning. As instructional designers, we need to keep the academic needs of both students and instructors as our main focus throughout the design and revision process. Unless the course website serves their needs as efficiently and effectively as possible, it will not be utilized and our time and energy in developing it will be wasted. We hope that in this study we have added to the knowledge available about this design task, and hope that other instructional designers will find our experience useful.

References


A Course Website One Year Later: Lessons Learned

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Research Questions

This study focuses on the continuing development and revision of a course website after its first semester of use, specifically:

– How was the website used?
– How well did it meet the needs of the students and the instructor?
Methods

- Focus Groups
- Surveys
- Instructor Interviews
- Document Analysis
Document Analysis

World Wide Web Access Statistics for www.indiana.edu

Last updated: Wed, 05 May 1999 11:50:10 (Wed, 05 May 1999 16:50:10 GMT)

- Total Transfers by Request Date
- Total Transfers by Request Hour
- Total Transfers by Client Domain
- Total Transfers by Reversed Subdomain
- Total Transfers by URL/Archive Section

Totals for Summary Period: Apr 1 1999 to Apr 30 1999
Requests Received During Summary Period: 2941 Bytes Transmitted During Summary Period: 19270652
Average Requests Received Daily: 124 Average Bytes Transmitted Daily: 656359

Web log data
Slide 7

Findings

- Technology Details
- Student Use of the Site
- Site Content
- Site Design
- Site Structure

Slide 8

Technology Details

- Mac and PC users
- Ethernet and dial-in users
- Internet Explorer and Netscape users
- URL difficulties – is it ../y603/… or ../Y603/…?
Site Design

- Navigation
- Design Touches

Site Structure

- Sections
- Access
- Impressions
Student Use of the Site

- “Didn’t use it much. Didn’t have to.”
- Instructor emphasis?
- Tied to course activities and assignments

Student Use Patterns - I

Page Requests by Week of Class

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<thead>
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<th>Total Requests</th>
<th>Week of Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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</tr>
<tr>
<td>117</td>
<td>1/31/99</td>
</tr>
<tr>
<td>143</td>
<td>2/14/99</td>
</tr>
<tr>
<td>145</td>
<td>2/28/99</td>
</tr>
<tr>
<td>140</td>
<td>3/14/99</td>
</tr>
<tr>
<td>140</td>
<td>3/28/99</td>
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<td>459</td>
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<td>592</td>
<td>5/9/99</td>
</tr>
<tr>
<td>586</td>
<td>5/23/99</td>
</tr>
</tbody>
</table>
Slide 13

Student Use Patterns - II

Page Requests by Time of Day

Slide 14

Site Content

- Students focused on completing course assignments
- Software resources
- “The discussion section would be helpful for after-hours help.”
Use by Content Area

![Page Access Count Graph](image)

Recommendations

- What materials should be available in print/website/both?
- Student expectations of finding the most current resources
- Student awareness of the website contents
- More integration with course activities
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Recommendations

- Online class discussion/Q&A format
- FAQ file of frequently asked stats questions

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Limitations

- Only one course
- Somewhat small class size
- Evaluators = developers (?)
Recommendations for Future Research

- Implement recommendations and assess student use of the site again
- Assist instructor in facilitating online class discussion by reviewing logs of discussion board and

Student Use Patterns - ???

Page Requests by Day of Week

- Total Requests
- Day of Week
Visit the Course Website
http://www.indiana.edu/~jopeng/Y603/

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Questions?