Comparison of Web Courses with Traditional Teaching

Raj Desai, Eugenio Lord

Southeast Missouri State University/ George Mason University

Abstract

This article will focus on comparing the effectiveness of on-line courses versus regular classroom based learning for the past three years. We will compare the time it takes to develop a web course to a traditional course and the benefits of developing a web course. We will also compare enrollment in a web course with a traditional course and try to explain why they are different. We will also look at student evaluations and try to explain the results. We will look at pitfalls with web courses, including the dropout rate. We will compare the grades of regular course with a web course and try to explain the results. We will also look at the results of comparing web courses to regular courses with regards to students who took a second continuation course for the past two years.

University support is vital for offering courses online. We will look at training needs for faculty to offer courses online. Online grade information, and bulletin boards are generally used with web courses and faculty need training in incorporating these tools in their web courses. Some universities also offer incentives such as a reduced course load the first time the course is taught, and/or a monetary reward the first time a course is taught. We will examine the incentives that can be offered to faculty in order to increase the development of web courses.

I. Introduction

With the widespread use and the rapid growth of the Internet, educational and training institutions around the globe are racing towards using the Internet as a new medium of delivery. The world-wide-web is a powerful and exciting medium for communication and as such is a valuable resource for faculty for delivering online instruction. Its ease of use and the capacity as a repository of information and the interactive delivery of content makes it an effective option for furthering knowledge and skill. The advantages of web courses are they can easily be reviewed and changed for currency and accuracy compared to textbooks. As the world-wide-web becomes a state-of-the art delivery medium there is a need among educators and trainers to obtain knowledge about the tools needed for developing and implementing web courses. Easy access to education and training to

potential students is a growing need, as well as servicing industry needs through asynchronous learning for employees.

There are various methods of developing on-line courses. There are private organizations that develop software specific to on-line education such as e-College, Blackboard, Web CT, and Top Class to name a few. Many education institutions are using these private distance learning providers for taking advantage of their infrastructure, instructional design features and technical support for delivery of on-line courses.

II. Designing Web Courses

The course developers must provide the following information in their web courses: A header identifying the author and course details, E-mail access to the web course author along with other means of access, information on last revision and date, appropriate citations for text, graphics, video, and audio sources that are not created by the web course author, a link to the University Home Page, a copyright statement, and text elements that can be read while the media are loading[1]. Some general guidelines[2] to follow are: Split your information into logical sections, make sure your starting page is attractive and well laid out, try to have a consistent theme throughout your entire site, try to use colors, styles, and fonts that complement each other.

Try to get to the point on the first page, or at least give people an idea of what your site is about. Make it easy for the viewer to find the information for which they are looking. Ask yourself what things people might be looking for and try to make those things accessible from the main page. Offer a way of contacting somebody in case they don't find what they are looking for. Try to test your pages to see how they look with a different size screen, with the images turned off, a different color resolution, and a different browser. Make sure your site is relatively quick to load, no matter what you put on it. As a rule the page should not be more than 50K. Under normal conditions, this page will load in a few seconds yet allow some fairly good use of graphics. If you have more material, consider separating it on separate pages. Graphics can be stored in a JPEG or GIF format. JPEG format uses "lossy" compression and you can decide the trade off between file size and quality. GIF images will ensure that the images display exactly the same all the time. Use graphics and gadgets sparingly. Some common things that get overused are excessive graphics and background images[2].

III. Developing Web Courses

Developing quality web courses takes time[3]. The front end of your web page should include a welcome screen, syllabus, testing information, posting of grades online, and a bulletin board. There are many different web page editors available in the market today that can be used in order to quickly create a functional Web page. Microsoft FrontPage 2000 is relatively easy to use considering our University's familiarity with the Microsoft Office suite. FrontPage 2000 allows you to create Web pages using one of the pre-developed program templates and from blank pages.

Creating Web pages in Microsoft FrontPage is very easy[1]. Launch FrontPage, select File in the menu bar, select New from the drop down menu, select web from the sub menu, select One Page Web icon from the new dialog box, specify the location of your Web account, and click on the OK button. When you begin using FrontPage you will find that many of the toolbar buttons are the same as the toolbar buttons found in Microsoft Office.

To save Microsoft Word/Excel/PowerPoint 2000 Files as Web Pages, save your file by going to File in the menu Bar, select Save as Web Page from the drop down menu, select your working web page folder to save the file, make sure the file name textbox contains the proper name, and click on the Save button.

IV. Teaching Web Courses

Table 1 summarizes the enrollment, dropout rates, and GPA of students in the online and regular courses along with data for a second continuation course for the past three years. We have found that web course enrollment is higher than traditional course enrollment. This is possibly because time constraints are lifted, and students can work around their regular schedule. It is also much easier for working people to take web courses. Dropout rates also seem to be a little higher for the online students. Since online students have to basically study on their own without much pressure for the faculty, it works better for students who are self motivated. Others who need to be pushed by the teacher would do better in a regular course. Any student, who cannot stick to a regular schedule, may fall behind in their work and eventually drop the course. The number of students who did enroll in a second continuation online course dropped significantly. The reason most students gave was that the online course took a considerable amount of their time to complete, and that it was more difficult for them than a classroom-based course.

Table 1. Student Enrollment & GPA

	# of Students	# Completed	# Incomplete/Drop	GPA
Fall 1999 Web Course	22	20	2	3.25
Spring 2000 Continuation Web Course	14	12	2	3.2
Fall 1999 In Class Course	13	13	0	3.3
Spring 2000 Continuation In Class Course	10	10	0	3.3
Fall 2000 Web Course	26	22	4	3.5
Spring 2001 Continuation Web Course	14	10	4	3.4
Fall 2000 In Class Course	17	16	1	2.9
Spring 2001 Continuation In Class Course	16	12	4	3.6
Fall 2001 Web Course	26	19	7	3.5
Spring 2002 Continuation Web Course	13	NA	3	NA
Fall 2001 In Class Course	20	19	1	2.8
Spring 2002 Continuation In Class Course	19	NA	0	NA

Grades on average for the past three years are a little higher for web students as compared to the regular students. This result came as a surprise to us. However some case studies support this observation[7]. This may be because many of the online students are generally working and may have more practical experience in the subject matter, and also may be studying more compared to the regular students. Motivation may be another factor for their performance being slightly higher than the regular students. We have also found from experience that it takes much more time to teach and administer web courses. Other web course developers agree that teaching a web course and maintenance of a web course takes considerable amount of time[4]. However having said that, we feel that the time is well spent since the material developed in the web courses can also be used in the regular classroom. Student satisfaction is about the same in the traditional course and the online courses. Again the reason may be that students are glad they could get to take the course around their regular schedule. Other authors agree that if you deliver a quality product people will be attracted towards a new technology[5]. Giving direction when students are stuck with a problem becomes much more difficult with a web course, especially if it is a difficult problem. This would be simple to do in a classroom, as you could gauge the student understanding and explain the solution till the student understood the material. Some authors believe that the web courses will benefit with the addition of synchronous communication component to online couses[6].

V. University Support for Web Courses

The Center for Scholarship in Teaching and Learning (CSTL) at Southeast Missouri State University helps enhance professors' teaching and students' learning experiences by providing a diverse source of materials on effective teaching, and incorporating technology into education as is done at other universities[8]. The home page, which includes the syllabus for each of the classes, bulletin board for students to discuss topics with each other, and online grade information for the students' benefit, were all made with the help of the CSTL. Students are happy to have the means to communicate with each other[9] as is provided by the bulletin board program.

The School of Extended Learning at Southeast Missouri State University is making a major push towards offering courses online. The School of Extended Learning is even offering incentives for faculty teaching on-line courses, as are many other universities[10]. The incentives include a small monetary reward or a reduction in the teaching load during the semester we first teach the course.

VI. Conclusion

Employers are looking for students who have excellent working knowledge of computer systems. In today's competitive industrial environment keeping abreast with emerging Internet technologies and learning/training needs is becoming increasingly important not only for students but also to those involved with technical education. The internet has become an effective delivery medium for providing easy access to education and training needs, as well as facilitating asynchronous learning. Having a good understanding of the tools needed for developing and implementing courses on the Internet is imperative.

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RAJ DESAI
Raj L. Desai is an Associate Professor in the Department of Industrial and Engineering Technology at SE Missouri State University. Dr. Desai received a B.E. degree in Electronics Engineering from Bangalore University, an M.S. degree in Electrical Engineering from Texas A&M University and a Doctor of Industrial Technology Degree from The University of Northern Iowa in 1991.

EUGENIO LORD
Eugenio Lord is the Training Coordinator, Information Technology Unit at George Mason University in Fairfax, Virginia. Dr. Lord received a B.A. degree in Graphic Arts Technology from Manchester University, a M.Ed. degree in Industrial Technology from Bowling Green State University, OH and a Ph.D. degree in Industrial Technology and Statistics from Iowa State University in 1994.