Internet Course Delivery: Design, Development, and Dispensation

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Abstract

This article focuses on the instructional design, development, and compares the effectiveness of on-line courses versus regular classroom based learning. We compare the time it takes to develop a web course to a traditional course and the benefits of developing a web course. We also compare enrollment in a web course with a traditional course and try to explain the differences. We also look at student evaluations and try to explain the results. We look at pitfalls with web courses, including the dropout rate. We compare the grades of regular course with a web course and try to explain the surprising results. We also look at the results of comparing web courses to regular courses with regards to students who took a second continuation course.

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 offering 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. Instructional Design

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. Instructional Development

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 create a new web page after launching FrontPage, select File from the menu bar, select New from the drop down menu, select Page from the submenu, select the general tab, select the Normal Page template, and click on the OK button. To update a Web page after launching FrontPage, select File from the menu bar, select Open Web from the drop down menu, select the web from the Look In Listing, and click on the Open button. Open the Web page that you wish to edit on your computer in FrontPage by selecting File from the menu bar, select Open from the drop down menu, select File from the listing, and click on the Open button. Your Web page should now be open and ready to edit. The standard toolbar provides many of the same functions that you will find in Microsoft Word.

To insert tables, position your cursor where you would like your table inserted. From the drop down table select the number of rows and columns you would like to have in your table. Click this button to insert a table. This can be used to present information in a tabular format. To make a link select the text that you want linked. Click the link button to create a link to another page. FrontPage has several themes that are ready for you to apply to your Web page or entire site. This is similar to PowerPoint themes. To apply a theme select Format from the menu bar, select Themes from the drop down menu, select the theme that you wish to apply, and click on Ok button to apply the changes. To modify themes, select Format in the Menu bar, select Themes from the drop down menu, select the theme you wish to modify, click on the Modify button to see additional buttons such as Colors, Graphics, and Text. In order for viewers to contact you with questions or comments, you want to create an e-mail link. To do this insert a text or graphic that you want to serve as E-mail link and then highlight it. Click on the hyperlink button. Click on the Make a hyperlink that sends E-mail button. Type your E-mail address in the textbox and click on the OK button. To insert graphics, select the Insert Picture from File button from the Standard toolbar, select the graphics that you wish to add, and click on the Ok button to insert the graphic. Resize the graphic, as needed using the sizing handles. To add a Text Alternative Representation you can click your right mouse button on the inserted graphic and choose Picture Properties. Click Ok button once you have added a brief description of what the picture represents. To save a graphic off the Web that is not copyrighted, click your right mouse button when your mouse is on the picture, point to Save this Image as or Save Image, and in the File Name text box insert your own filename, make sure the proper drive is selected from the Save In list box, make sure the proper subdirectory is selected, and click the Ok button to save the file.

To import sound, image and movie clips select Insert in the menu bar, select Picture from the drop down list, select Clipart from the submenu, select the tab associated with the media item you wish to download, select the Import Clips button from the toolbar, your default browser should launch and open the Microsoft Clip Gallery Live in the display window. Select the type of clips you wish to search from the View Clips by type drop down list. Select all of the clips you wish to download by clicking on the checkbox at the

bottom right hand corner of each graphic. Select the Download Now link. On the Download screen, click the Download Now link to begin downloading and installing.

To keep track of the number of visits you have to a Web page, you may wish to add a counter. Select the Insert Component button from the standard toolbar, select Hit Counter from the drop down list, select the radio button of the style that you wish to use, and click on Ok to add a counter to your Web page.

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. Instructional Dispensation

We have found from experience teaching web courses that it takes much more time to develop web courses and administer the courses. 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. We have also 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. Student satisfaction is also higher with the online courses. Again the reason may be that students are glad they could get to take the course around their regular schedule. 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 till they understand the material. Grades are generally higher for web students compared to the regular students. This result came as a surprise to us. However some case studies support this observation[3]. 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. 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.

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[4]. 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[5] 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[6]. 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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