

WEBCT USAGE: ARE INFORMATION SYSTEMS FACULTY USING E-LEARNING COURSEWARE TOOLS MORE THAN OTHERS ON CAMPUS?

Camille F. Rogers, Georgia Southern University, cfrogers@georgiasouthern.edu
Manouchehr Tabatabaei, Georgia Southern University, mtabatab@georgiasouthern.edu

ABSTRACT

The development of e-learning courseware tools such as WebCT and Blackboard, have allowed faculty of all disciplines the opportunity to move their course curriculum to the Internet. Prior to these tools, faculty could use the Web for teaching, but had to have a certain level of HTML and web programming skills to do so. Information Systems faculty and those in other computing disciplines have traditionally been the leaders in usage of new technology and this paper explores whether this remains true with the usage of the online courseware tool called WebCT. In particular this research will analyze the usage of this tool on one particular regional campus in the southeastern United States.

Keywords: online learning, e-learning, courseware tools, WebCT, Information Systems faculty

INTRODUCTION

There have been many research papers that have explored the classic curriculum questions of *what* we are teaching and *how* we are teaching. The development of the World Wide Web in the early 1990's has extended the issue one step further to include the concern of *where* we are teaching. Researchers such as Palloff and Pratt [3, 4, 5] and Aggarwal [1] have done extensive work in teaching classes online. Their work in particular discusses the many benefits of teaching online as well as the challenges that can be overcome when migrating to Internet-based courses. The Web has indeed allowed the forum for teaching to move beyond the traditional face-to-face (F2F) classroom to either web-enhanced courses or 100% true "virtual" classrooms [2].

This non-traditional forum has become popular, primarily due to the availability of courseware tools such as *WebCT* and *Blackboard*. These types of software tools have eliminated the need to know HTML, Javascript, and other web programming languages. Instead online courseware provides simplified GUI interfaces and menu options for all faculty, including the technically challenged, and as a result there appears to be an increase in the usage of these tools in academia.

The researchers of this paper would like to know exactly how popular these tools have become and who is using them on campus. Is this just a novelty forum that is being used by a select few on campus, or is it being used by many across campus? Is it really "replacing" the traditional classrooms altogether, as some would like to suggest, or is just enhancing traditional classes? In particular, we would like to know if this medium is being used more by the traditional "techie" on campus, such as Information Systems professors, or has the rest of campus moved to the e-learning age as well?

This research will attempt to answer some of these questions by exploring one regional university's use of *WebCT*. In particular, the researchers will present data about the number of classes being taught using *WebCT*, categorizing the information by discipline, college, and classification level (undergraduate or graduate). This data will then be compared to the summary of class listings overall for the campus to see what percentage of faculty and discipline areas are represented in the web-based courses.

On this particular campus, *WebCT* has been used since 1998. To assist faculty with implementing the software, the campus provides a technical training center that provides daily workshops on a variety of application software including *WebCT*. In addition, there is a technical support center on campus particularly for faculty using *WebCT*. This type of infrastructure creates an environment for all faculty to easily transition to enhanced or full online teaching.

METHODOLOGY

Collecting the data for this research consisted of retrieving the master list of courses offered on campus for the fall 2004 semester from the online registrar schedule. In addition, the master listing of all *WebCT* courses for the same time period was obtained from the *WebCT* technical support center on campus. These two lists were then compared and organized by course subject, respective college the course is taught in, and classification of graduate or undergraduate course. The data was also analyzed and classified as a traditional course, off-campus course, or Internet/Web course.

Simplified sorting of the class listings was not sufficient and additional filtering was done manually to eliminate duplicate classes for multiple-site distance learning courses and combined 4000 and 5000 level undergraduate/graduate classes. Each semester the *WebCT* administrator on campus resets each course back to zero students, to eliminate carryover from one semester to the next. In this research study only those classes that were considered active for the current semester with an enrollment of one or more were used.

RESULTS

The first set of results provides a summary of *WebCT* usage on campus by college. On this particular campus, classes are taught in six different colleges and through the Provost's office. These colleges are listed in table 1 along with the number of classes taught in each, the number of *WebCT* classes, and the percentage representation. For clarification, it helpful to note that the Information Systems faculty are not part of the College of Business (COBA) as is traditionally found on most campuses, but instead in found in the College of Information Technology (CIT), along with two other computing disciplines which will be discussed in a moment. As reminder, the numbers provided represent the number of classes using *WebCT*, and not necessarily comprehensive Web classes. In addition, it is not known to what extent the *WebCT* features are used by each, and thus could be minimal usage or extensive usage of all features.

Table 1. Summary of WebCT Usage by College

College	Undergraduate Classes	Graduate Classes	% Usage for all Classes
Health & Human Sciences (CHHS)	20.40%	45.71%	22.43%
Information Technology (CIT)	72.73%	23.08%	66.96%
Liberal Arts and Social Sciences (CLASS)	14.64%	10.08%	14.00%
Business Administration (COBA)	26.32%	50.00%	28.41%
Education (COE)	51.32%	81.43%	65.75%
Science and Technology (COST)	3.77%	3.53%	3.74%
Provost (PROV)	14.74%	0.0%	14.65%
campus wide – all classes	17.57%	29.68%	19.14%

As is indicated in the results, the overall campus use of WebCT for this particular semester is just under 20 percent of all classes. The college breakdown indicates that the computing faculty in the CIT are indeed the leaders in using this particular courseware tool with 66.96% of the classes using WebCT, followed closely by those teaching in the College of Education (COE) with a 65.75% usage rate.

Further analysis was done in the CIT to determine which discipline was using the courseware tool more than the others. This particular college includes the three computing disciplines of Computer Science (CS), Information Technology (IT), and Information Systems (IS). The results are provided in Table 2.

Table 2. WebCT Usage in the College of Information Technology

Department	Undergraduate	Graduate	All Classes
CS	17.39%	9.09%	14.71%
IT	76.47%	N/A	76.47%
IS	93.22%	100%	93.44%
all	72.73%	23.08%	66.96%

The results clearly indicate that the Information Systems faculty used the software more in their classes (93.44%) than the other two disciplines. The IT department currently offers no graduate courses and thus is represented with an N/A or not applicable rating in this category, but the department did show a strong usage (76.47%) in the undergraduate courses. The computer science department not only used the tool the least, but also had minimal usage overall with only a 14.71% rate. The graduate courses in this department used WebCT least with only a 9.09% usage result.

The final table of data provides a classification of courses by type of deliver. The choices at this campus include traditional on-campus course, off-campus course in another location with traditional face-to-face delivery, or a true virtual Web class. The results in table 3 show that 97% of the courses on campus are still using the traditional delivery mode of face-to-face teaching and virtual web classes consist of only 1% of the courses on campus.

Table 3. Type of Course Delivery

College	On-Campus	Off-Campus	Virtual Web Class	All Classes
CHHS	430	1	7	438
CIT	115	1	1	117
CLASS	830	6	1	837
COBA	251	20	1	272
COE	128	18	16	162
COST	716	5	0	721
PROVOST	157	0	0	157
TOTAL	2627	51	26	2704
%	97.15%	1.89%	0.96%	100%

DISCUSSION

The results of this study provided some interesting insight in the usage of WebCT on one campus. It appears that the faculty in both the CIT and COE are strong users of WebCT software in their classes. Because of the technical nature of the disciplines in the CIT, it is expected that they would be using technology in their classes and thus our primary research hypothesis has been supported. The Information Systems faculty in particular showed very strong usage of the tool in their classes with a 93% usage. A closer examination of these courses revealed that all of the faculty but one in this particular department used WebCT in every single course they taught. The one faculty who did not was an adjunct instructor who taught in the evening and worked in industry during the daytime. It appears that this particular instructor, while being a good candidate for using WebCT because of the lack of availability to students during the daytime, is either not familiar with its communication benefits or does not have the perceived time it takes to learn it.

The minimal usage of courseware technology by the computer science faculty is somewhat surprising. They have strong technical skills and it seems that they would be using it in more than 15% of their classes. It is hard to speculate what their reasons are but one hope that they are familiar the many features and benefits of using such technology.

The COE has a strong usage in part due to their graduate program. The college offered 76 undergraduate courses in the fall, while teaching 70 graduate classes during the same time period. The graduate program consists of masters, education specialist, and doctorate degrees taught in the evenings, with a primary clientele of non-traditional students who are public school teachers during the day. Thus, the need is in place to use a medium that allows faculty to communicate with students and faculty in the COE appear to meet that need with their strong usage (65.75%) of WebCT overall in the college, and particularly at the graduate level with an 81.43% usage level. This usage is further supported in that the COE offers the most number (N=16) of virtual Web courses on campus, all at the graduate level.

In the COBA, there is a higher usage of WebCT at the graduate level than undergraduate with a 50% usage rate. Further investigation in this area reveals that this is probably due in part to the

number of MBA classes (N=20) being offered at a remote off campus locations and in part due to the college participating in a state-wide web-MBA degree program. Overall, this supports the trend on campus of using courseware technology in graduate classes more than undergraduate. Perhaps this is due to the nature of graduate students being non-traditional and working full time during the day, thus not having the opportunity to be on campus during the daytime office hours of the professor.

CONCLUSION

The results of this study indicated that there is some usage on campus by faculty in CIT and COE, particularly amongst the Information Systems faculty. What is not known is why? Is it because they see the benefits to both faculty and students, is it because they find it easy to use, both, or something completely different? There are many questions left unanswered and more areas to explore. For example it would be helpful to conduct further research asking those faculty who are not using WebCT why they are not using it. At the same time it would also be useful to see which features of WebCT are being used the most by current users in an attempt to understand why they are using the courseware tool. A longitudinal study was also provide insight to see if there will be an increased usage on campus over the next few years as professors and students alike look to the Web as a source of e-learning.

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