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A COMPARISON OF SUCCESS IN ON-CAMPUS VERSUS DISTANCE LEARNING FOR AN INFORMATION SYSTEMS COURSE

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ABSTRACT

In today's climate of budget cuts and scarce resources, the growth and popularity of distance education classes cannot be ignored by any university. Despite the convenience, are the students enrolled in distance education classes really getting a quality education and doing as well as students in traditional on campus classes? Although many do in fact succeed in distance education courses, overall it appears that grade point averages and success rates are lower for students in such classes. This study compares three semesters of scores and GPA's for students enrolled in information systems classes, differing only in the method of delivery.

Keywords: distance education, online education, information systems curriculum

INTRODUCTION

Distance education classes are here to stay and, as with traditional courses, we, as educators, must continually improve our methods of delivery. The pros and cons of distance learning (DL) are well documented [1]. Purdue University Calumet (PUC) has a relatively long history of offering distance education classes and experimenting with delivery systems. The current delivery system, Blackboard/Vista, has been in use for several years and, thus far, offers instructors satisfactory flexibility in presenting material, collecting assignments, administering exams, and reporting grades. Most non-distance education classes now utilize Blackboard/Vista to assist in course delivery. The one thing that cannot be duplicated for the DL classes is the in person, face-to-face contact that traditional classes offer. Even with the use of videos, the personal touch that face-to-face contact offers cannot be matched. So, could this be a factor in overall success? It appears that it is. Certainly other factors come into play also, but it appears that the lack of personal bonding between student and teacher is a key component leading to reduced scores in distance education classes. This paper compares and contrasts the semester grades earned in an introductory information system class over the course of three consecutive semesters.

Computer Literacy Course

No attempt is made at PUC to offer an altered curriculum to DL students. Across campus, we are an institution where the DL programs and on-campus programs are exactly the same [2]. Although not yet ABET accredited, the Computer Information System (CIS) program follows ABET IS curriculum guidelines. One course required by every CIS major and many other majors is CIS 20400, Introduction to Computer-based Systems. CIS 20400 is a recognized general education class on the PUC campus, taken by students from various programs across campus to satisfy a university wide computer literacy requirement. CIS 20400 presents basic computer concepts and terminology as well as a healthy introduction Microsoft Office software. The class has been offered many years and, for the last four years has been available in both on-campus and distance education sections. The three recent semesters (Fall, 2009; Spring, 2010; and Fall, 2010) are used in this study.

As indicated, CIS 20400 is a recognized general education course taken in the same light as required math and English classes on campus. The course has no prerequisites and typically has an equal distribution of freshmen, sophomores, juniors, and seniors. All students have met university admission requirements and are equally qualified to enter the course. Of course, students with considerable PC experience in high school or in the workplace will have an edge.

CIS 20400 is offered through 16 or 17 sections every semester. To no great surprise, distance learning sections tend to fill first or have greater enrollment figures than the traditional on campus sections of this course. For the sake of consistency, all the figures used in this study come from the sections taught by the same instructor.

RESEARCH METHODOLOGY

This study focused on the following research question: Do distance education students succeed at the same level as their on-campus counterparts?

The research hypotheses are as follows:

H_1: All students are equally prepared for CIS 20400 regardless of their indented major and the method of delivery they choose.

H_2: Using the same textbook, the same lab assignments, and the same set of exams and quizzes, on-campus and distance education students should perform at comparable levels.

In evaluating the overall success or failure of students in DL sections versus on campus sections, average percent, median percent, average GPA, and median GPA are used. In both classes, a student's semester grade is based upon the percent of total points he/she achieves during the semester. Through the use of laboratory assignments, quizzes, and exams, students have the opportunity to add to their point totals. Point totals for DL sections are the same each semester as point totals for on campus sections. Exams and quizzes are administered via Blackboard/Vista and, likewise, are exactly the same. All exams and quizzes are open book/open note for both groups and are timed. The only significant difference is that DL students typically have a 3 or 4-day window in which to take their exams whereas on campus students must complete their exams at a regular class meeting. An advantage for distance learning students might be perceived here in that they can choose the environment in which they ultimately complete the exam or quiz.

Approximately 50% of all possible points for CIS 20400 come from exams, 40% from laboratory assignments, and 10% from quizzes. Students who withdraw from the classes are not included in this study and the number of withdraws will be pointed out in Table 5.

Table 1 Evaluation Criteria

> **Semester percent** – the percent of total points accumulated
>
> **Semester GPA**–4 point scale; A-4, B-3, C-2, D-1, F-0

For the three semesters used in this study, the textbook and lecture notes were the same. Also, the difficulty level of laboratory assignments, exams, and quizzes remained constant.

RESULTS

The results were compiled and illustrate some interesting insight. The obvious trend is, overall, for on campus students to secede at a slightly higher level than their DL counter parts in the class studied. The tables below present the results.

Table 2 Fall, 2009 Averages & Medians

Criteria	Avg/Median	Class Size
CIS 20400 DL		50
Average %	82.0%	
Median %	82.4%	
Average GPA	2.7	
Median GPA	3.0	
CIS 20400 campus		28
Average %	85.7%	
Median %	87.4%	
Average GPA	3.0	
Median GPA	3.0	

Table 3 Spring, 2010 Averages & Medians

Criteria	Avg/Median	Class Size
CIS 20400 DL		28
Average %	83.3%	
Median %	87.0%	
Average GPA	2.8	
Median GPA	3.0	
CIS 20400 campus		35
Average %	85.1%	
Median %	86.9%	
Average GPA	3.0	
Median GPA	3.0	

Table 4 Fall, 2010 Averages & Medians

Criteria	Avg/Median	Class Size
CIS 20400 DL		32
Average %	84.2%	
Median %	89.4%	
Average GPA	3.1	
Median GPA	3.5	
CIS 20400 campus		31
Average %	86.3%	
Median %	87.9%	
Average GPA	3.0	
Median GPA	3.0	

In order to help clarify the data, the table below presents figures for withdrawals and failures in the classes presented. Clearly, a student who chooses not to drop a course but at the same time does little or no work for the class (effectively withdrawing without going through the formal process) is going to have a significant impact on averages whether in a DL or on campus class.

Table 5 Withdrawals and Failures per semester

Course/Semester	
CIS 20400 DL	
Fall '09 withdrawals	3
Fall '09 failures	-
Spring '10 withdrawals	4
Spring '10 failures	1
Fall '10 withdrawals	3
Fall '10 failures	2
CIS 20400 campus	
Fall '09 withdrawals	3
Fall '09 failures	1
Spring '10 withdrawals	5
Spring '10 failures	1
Fall '10 withdrawals	4
Fall '10 failures	-

CONCLUSIONS

The data shows a clear difference in the average percent and average GPA for DL versus traditional on campus classes. The on campus students have, overall, performed at a slightly higher level. This is simply a snapshot of three semesters worth of data, but clearly points out the fact that something may be amiss as far as distance learning is concerned.

Based upon the results of the study, it is clear that further investigation may be needed to seek a reason for the differences. There may or may not be a solution. DL, by its nature, may simply amplify a lackadaisical approach to studies on the part of some students. DL may require that additional resources be made available to students. Should these same resources not be made available to on campus students also? Where is the gain? Increasing the length of web-based components would appear to not to a solution [3]. The research shows that many students simply skip the latter portions of lengthy presentations.

Perhaps we should simply accept the concept that DL students, on average, do less well than traditional on campus students. It may also be that average scores are simply brought down by students who see a DL class as something that takes less effort than actually getting out of bed and going to class.

REFERENCES

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