

Undergraduate Preferences for Courses Offered Online¹

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Abstract

Online and distance education at universities is on the rise in this country. This upward trend has been aided by the number of computers in the home as well as the number of people with Internet connections. In this rush, students are usually not consulted about what courses they would prefer to take online. Should the course content be directed towards one's major, or should courses be more general entry-level classes? Does the student's major affect the preference for taking specific courses online? To answer these questions students from undergraduate classes at a large urban university were surveyed. The students were asked about computer and Internet access in the home, what their majors were, and what their preferences were for online classes. The intent of this research is to first test whether or not the major of the student has a direct influence on the classes they decide to take online, and second to determine which level courses the students prefer to take online. The results indicate that students prefer courses outside their major, and show some preference for lower level courses.

Keywords: Online education, student course preferences, survey questionnaire

1. INTRODUCTION

This research studies undergraduate students' preferences for selecting particular courses offered online using the Internet. Members of the student body of a large urban university were surveyed to better understand what courses they may like to take online. Various factors potentially influence the student's decision to take an online course. Some of these factors are the student's major and/or minor, whether the student is part-time or full time, the number of hours the student may work outside the school, the student's academic level (freshman, sophomore, junior or senior), and their access to technology.

Results show that the course level directly affects the student's choices for specific online courses. Lower entry-level courses are preferred over higher-level courses. Students also preferred to take courses outside their major. Findings may help in deciding what courses

a university should decide to offer online first while continuing to map out their online strategy. There were seventy-four (n=74) usable questionnaires, and this small number of respondents limits the study. However, the results do indicate that investigating the criteria students are using to select online courses is justified and enlightening.

First, we describe some of the key literature sources regarding course selection criteria and student characteristics. Then, the methodology for the study is presented along with the results of the investigation. The paper concludes with a discussion of some implications of the results.

2. LITERATURE

The penetration of technologies such as the Internet and personal computers has fueled the movement toward online education in the United States. The latest

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available statistics from the United States Department of Commerce show the following:

“More than half of the nation is now online. In September 2001, 143 million Americans (about 54 percent of the population) were using the Internet — an increase of 26 million in 13 months. In September 2001, 174 million people (or 66 percent of the population) in the United States used computers.” (U.S Dept. of Commerce, February 2002).

Pertaining to opportunities for delivering education online, the Department of Commerce found that roughly ninety percent of the children ages 5 to 17 (48 million) use computers, and furthermore seventy-five percent of the children aged 14 to 17 have Internet access (U.S Dept. of Commerce, February, 2002).

Most studies of online education course selection have focused on the pedagogical criteria for selecting appropriate courses to offer online, the characteristics in students that correlate with successful completion of online courses, and the motivation students have for registering for online curricula.

McAlister, et. al (2001) offers an excellent distillation of expert opinion on the appropriate criteria to use prior to offering any web curriculum. Of the twelve questions the authors suggest to address, one relates to criteria for selecting courses: “Do you have clear, well-defined criteria for selecting the classes to be offered through the Web?” Among the criteria suggested is that courses be selected for their wide audience potential. “Courses that appeal to a larger audience and have less rigorous pedagogical requirements may be more appropriate initial selections (McAlister, et. al, 2001, p.40).

Several studies of student characteristics for success online have been published (e.g., Levin 1999). However, in a multicultural environment there is little evidence to suppose that these characteristics are relevant. Patricia McGee presents a comprehensive and thoughtful analysis of how to design web content in a diverse environment. Often students are asked to complete self-administered surveys to determine whether they ought to register for online courses. McGee concludes that “Such an approach is grounded in the notion that only those with certain attributes will or should take distance-learning courses, a faulty assumption that is exclusive and discriminatory.” (McGee 2001, page 40). McGee continues:

Cultural orientations for heterogeneous populations may be evidenced by conflicts in values, interpersonal interactions, communication patterns, time orientation and scheduling, rules of activity and engagement, cognitive processes, and processes of problem solving . (page 40).

The International Center for Distance Learning maintains a comprehensive website of literature in all aspects of distance learning. This site includes references to numerous surveys regarding motivational factors of students choosing online courses. We did not discover a body of literature reporting results of inquiries on student preferences for what courses they would like to take online after they were enrolled in a university.

3. METHODOLOGY

The study reported here surveys members of the undergraduate student body at a large urban university about the preferences for taking specific courses online. Several factors are taken into consideration. These include the year of the student (freshman, sophomore, junior and senior) and whether the student has full or part time status. The year of the student is decided by university standards based on the number of credits completed by the student. A full time student is defined as one that is enrolled in a minimum of twelve credits per semester. To try to obtain an even distribution of full and part time students questionnaires were administered in two different sessions. The first session was in the morning (9am) and the second session was in the late afternoon (5pm). The point of contact for the interviews was near the entrance to the school rather than in the classrooms.

The questionnaire⁴ first asks whether the student has access to a computer in the home, whether there is access to the Internet, and if so what the connection speed is from the home. The speed assessment is done by asking if the student has DSL, cable, T1 or a dial up modem.

The next set of questions is geared towards online education. First, the students are asked whether they have taken any online courses in the past. Secondly they are asked to mark which of a selection of subjects they have taken online. The selection is given based on courses offered online in the previous spring and fall semesters. Subsequently, the students are asked about their major, and finally which courses they would like to take online if given a choice

To analyze the data, students are grouped into categories by major (Economics, Math, History, Business, Sciences, Computer Science and Information Systems, Nursing, English/Literature, Communications and Foreign Languages). These are the same choices that they were given for choosing a subject for an online course.

⁴ Please email the authors for the questionnaire

4. ANTICIPATED FINDINGS

The results of the technology access part of the study should parallel those of the US Department of Commerce stating that seventy-five percent of youth between the ages of 5 and 17 had access to the Internet (US Dept. of Commerce, February 2002). Extrapolating from these findings we expect the percentage of university students with access to be equal to or greater than seventy five percent. The number of people that have computers in the home should also be similar to the Department of Commerce 2002 data.

Our study expected to uncover some connection between the students' majors and the subjects that they may desire to take online. One reason for this assumption is that Professors frequently develop online courses in their field. It was hoped that student preferred to take these classes. The questionnaire tests for this preference in two ways. The students are asked their major and this major is compared with the subjects that they rate as preferences for online courses. The expected results were that the students would choose courses that are within their major, leading to the conclusion that their major positively affects what courses they decide to take online. Next the students are asked what level of course they desire to take online (e.g. CIS 100 or CIS 500). Building on the assumption that courses within the major would be preferred, courses of a higher level were expected to be chosen since lower level courses tend to be general and are part or the core curriculum rather than the major. Both these assumptions proved to be incorrect.

5. RESULTS

Seventy-four (74) student surveys were usable.

Our discussion was limited to online courses offered over the Internet. Therefore, the student must have some sort of Internet access. We assume that the speed at which a student is able to connect may influence their decision to take online courses. The distribution of connection speeds within the sample is shown in figure 1. The table shows that the majority of people are connecting using a modem. Only two students did not have connection to the Internet from the home. As expected, the connection rate is much higher than reported in the US Department of Commerce study (2002).

Connection type	Number of students
Dial-up Modem	41
Cable	8
DSL	15
T1	6
No connection	4

Figure 1: Student Connection Speed to the Internet

The questionnaires showed no correlation between access speed and either the courses preferred or those already completed.

The number of students who have taken an online course was lower than expected at 7 students or 9.5%.

The number of students working was 57 students or 77%. This is a large percentage of the sample. A full time student cannot work more than 20 hours a week by university standards during the fall or spring sessions.

Among these 57 students more than half are working less than 20 hours. It appears that the workweek does not affect the decisions about online courses, but this factor needs more investigation.

We now look at the hypothesis that there is a relationship between the major and the courses that were preferred to take online. At the outset of this study there was interest in looking at the minor as well. The sample size only contained 20 students who declared minors, and the minors were in all the different areas. Therefore, only the major was taken into consideration in this study.

The sample data had to be limited to only those students who have chosen a major. Thus, 10 samples without a major were removed. Another student filled this portion of the survey out incorrectly and it was discarded.

In the process of grouping students by major some were eliminated, because the study design did not foresee all possible majors. The majors that were eliminated are Political Science, Education and Criminal Justice. Finally, 14 participants who filled out the questionnaire incorrectly were removed. This brought the working sample size down to forty-four (44) from the original seventy-four (74).

The students were asked to rank their top three choices of classes that they would like to take online, based on the subject of the course. The distribution of the results shows that Computer Science was a strong first choice (Figure 2). The number of students who chose Computer Science as their first choice was 9 or 20% of the sample. The important point though is that the graph illustrates what almost appears to be a random distribution overall.

A closer analysis of the data shows that among the most frequent subjects the students selected to take online were Foreign Language, Math and History. None of these categories were selected when students listed their major. English Literature was most frequently chosen as first, second or third, while History was second. This is not what would be expected if courses were selected within the major.

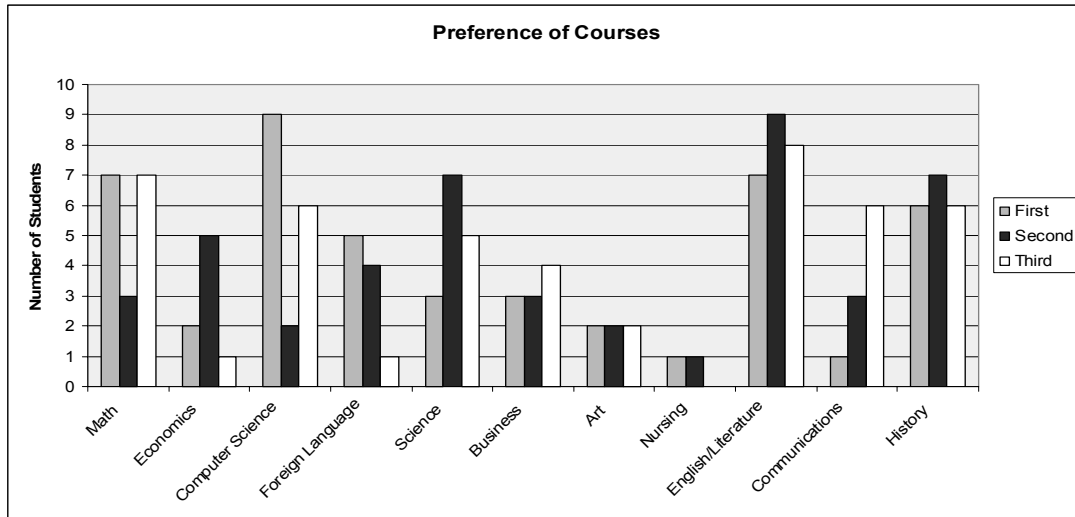
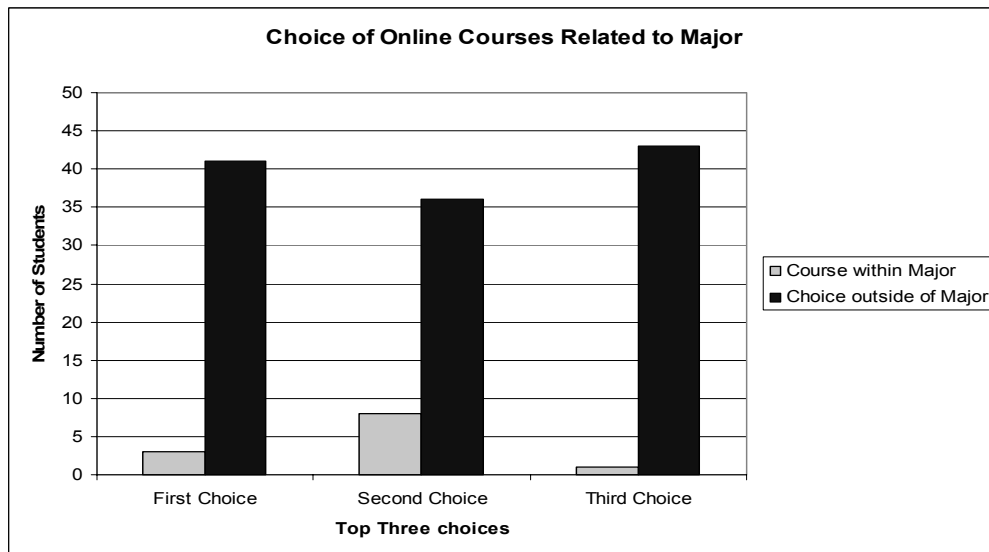


Figure 2. Preference of Courses

The students' majors were then compared against their top three choices for online courses. Recall that majors were grouped in the same categories as those in Figure

2. If the choice was within their major then it was a positive response and outside the major was a negative response. These results are shown in Figure 3.

Figure 3. Course choices inside and outside the major



As seen in Figure 3 the majority of the students did not choose an online course that is within their major. From the sample of forty-four (44) people, only three would take a course that is directly related to their own major as their first choice. The results are the same with the second and third choices for online courses. This is rather different than what was expected.

A subgroup was taken with only one major, Business, to see if a similar trend would be found. Ten of the students were Business majors. The results of the ten business students mimic those of the students from a variety of majors. The results are shown in Figure 4.

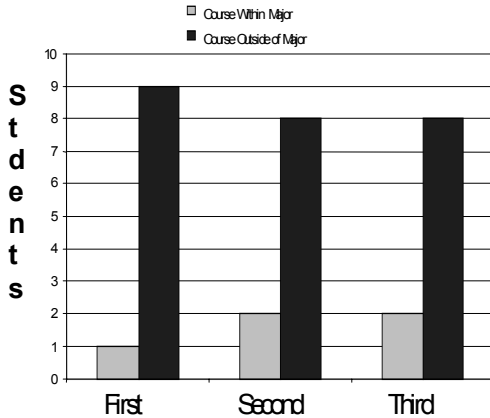


Figure 4. Business students' choice to take courses within or outside the major

The entire sample (n=74) was analyzed for what level of courses each student would prefer to take online. Two (2) questionnaires were removed because the marks were unclear or missing, leaving a sample size of seventy-two (n=72). The lower the course number the more general the content is in the course. As a student progresses within their major the course number will be higher. The results of the responses are shown in Figure 5.

Preferred Course Level	Number of students
100-200	17
300-400	7
400-500	1
No preference	47

Figure 5. Course Level Preference

The largest percentage of students shows no preference for what level courses to take online. Forty-seven (47) students or 65% of the sample have no preference about the level of courses. The low level courses came in next with seventeen (17) students or 24%. This same line of questioning was asked again later in the survey but phrased in a Yes/No response question. The students were asked if the level of the course would make a difference in whether or not they would take it online.

Yes	No
46	28

Figure 6. Would the level of the course weigh your Decision to take it online?

Of this same group there were 46 students or 62% who claimed that the level of the course would impact their

decision to take it online. These results are shown in Figure 6. The results are somewhat inconsistent.

6. DISCUSSION

As noted in the literature the use of technology in education is gaining acceptance and has been introduced into the state education framework (Newberry, P, September 2001).

We asked what courses students would take online and what their major was to see whether or not there was a correlation. We also asked what level of courses the students would be most interested in taking online. We looked at the course number as well the course content. The results showed that the students seemed to be scattered in their choices for courses online. There were a higher number of students who chose either History or English Literature for their top three choices. This is interesting when compared to the fact that none of the sample group has English Literature or History listed as a major or minor.

The students chose not to take online courses within their own major if they had a preference at all. If given the choice, 44% would rather take courses outside their major while another 41% had no preference. This is contrary completely to the assumption that was proposed at the onset of this study, that students would choose courses within their major over courses outside their major.

The second set of questions asked what level courses the students would choose to take online. Initially the hypothesis was that students would want to take higher-level courses. The majority of students, however, had no preference. Nevertheless, of those with a preference, most preferred to take lower level courses (see figure 5). This is in line with literature that assumes students will prefer lower level courses with less rigorous content (see McAlister, et.al, 2001). A similar question was asked in another fashion, whether the level of the course would affect their decision to take it online. The larger response of 62% said that the level of the course does affect their decision to take it online (see figure 6). These two answers appear to contradict each other somewhat. The results are consistent, however with the results that show the students would prefer to take classes outside their major, since courses outside the major will more likely be lower level courses

The concentration of choices for English/Literature, History and Math courses along with the preference for lower level courses shows students may register for general education and survey courses. These results may help with the selection criteria for course offerings as well as the pedagogical methods selected for the courses.

Students taking survey courses tend to be more heterogeneous and to represent more diverse learning

and cultural styles than those students taking higher-level classes within their own major.

Distance Learning and online technology have helped people to enroll in colleges while still in high school (Dunn, S. Jul/Aug 2001). Our results indicate that low-level courses may be the courses that should be designed first, and offering these early courses online may aid in helping high school students take college credits early.

7. FUTURE RESEARCH

In future research, more emphasis should be focused on understanding the relationships among working students and course preference, and on full or part time students and course preference. Additionally, more research is needed to better understand why students select online courses outside their major. Class level might well influence students' choices about what content and course level to take online. In this study 34% of the students were freshmen, and this could bias the results towards lower level classes.

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