Evaluating the Use of the Printed Class Schedule

Barbara H. Gotshall
Colorado State University

Abstract

At Colorado State University the fall and spring class schedules are available only online with the exception of a limited number of hardcopies for new incoming students to use for orientation and fall registration. Before the Summer Session Office considers doing away with the printed class schedule, the administrators decided to solicit feedback from the students.

In an effort to determine Colorado State University students' use of the hardcopy of the Summer Class Schedule, an online survey was conducted by the Summer Session Office in Spring 2004. Over 3,000 undergraduate students were randomly selected with the exception of seniors who were graduating in Spring 2004. The student e-mail system was used to make contact with the students, and students were directed to a URL that contained the survey. Students were asked their current class level; if they planned to attend Summer Session 2004; if they planned to attend future summer sessions; how they accessed the summer class schedule; and what features of the schedule they used. Students were invited to make comments about what they liked about using the hardcopy versus the online schedule.

There was a 14% return rate: 438 students responded to the survey.

Nearly 35% of the respondents planned to attend Summer Session 2004. Seventy-one percent planned to use the hardcopy of the schedule, and 54% planned to use the online schedule. Using chi square analysis, a significant difference was found among class levels and plans to attend Summer 2004, plans to attend future summer sessions, and plans to use the online schedule. There were 363 comments to the open-ended question, and most of the comments supported a preference for the printed class schedule although 30 students preferred the online schedule. Reasons for the hardcopy included: not dependent on a computer; easier to find courses/sections; can write notes, mark pages; can find courses of interest; easier to compare class times. The results may be inflated in that the students who prefer the hardcopy are the ones who responded to the survey since they have a vested interest.

Until it becomes evident that students no longer want access to the printed summer class schedule, the summer administration will continue to print it although the schedule may be printed less expensively. For now, the printed schedule is one way to make summer school more user friendly and accessible to a wide range of students.

Introduction

Colorado State University (CSU) is among many universities moving to online registration and online class schedules. CSU plans to phase out the printed class schedule for fall and spring semesters. For Fall 2004, limited printed schedules were made available for key advisers and new students and their parents who attended the fall orientation program. Current students are required to review the class schedule and register for classes on the Web. Through this transition period students, faculty, and advisers have experienced numerous frustrations with the online class schedule since it is the only option for finding and choosing courses. Most students have had no problems with the online registration, particularly when they had the hardcopy of the class schedule in front of them while they used the computer to register. Some of the frustrations with using the online class schedule include: switching from screen to screen which makes it cumbersome to compare classes and class times; unable to see one's schedule in the making; not having a portable schedule booklet that can be reviewed anytime and anywhere; and not having quick access and easy reference to the schedule of classes. It is likely that CSU students will adjust to the online class schedule. However for the Summer Session there is concern that moving entirely to the online schedule may have drawbacks, particularly for visiting students, teachers, and community folks who do not regularly use the CSU

registration system. A major goal of Summer Session is to make the summer application and registration processes as friendly as possible for both our own students and visiting students.

Literature Review

Even though universities have not kept up with business and commerce in the use of "e-business," they are indeed part of the electronic age. Incoming college students have grown up with computers, wireless phones, and information from the Internet at their finger tips. Their expectations of service and access to information are very different from previous generations of students (Caldwell, 2000). It has become essential for universities to keep up with new technologies. In the article, *E-Business: Change, Challenge, Opportunity* (Jacobson, 2000), the author discusses e-business methods used to enhance customer service to students. One method is the "customer decision" support, which involves Web applications that facilitate student decision-making. Prior to online registration students had information provided in the hardcopy of the course catalog. From the printed material students knew who was teaching the course, where and when the course met, and the prerequisites. Online registration, which is being implemented at universities across the country, is an improved system for supporting student decision-making. The online registration system is likely to include current class enrollment count and the number of available seats. The online system can include textbooks, the cost of textbooks, and the final exam dates. The system might also have a link to the course syllabus. The online registration enhances service to the students. They seem to enjoy the benefits of having additional, related information to help them decide about courses.

Yet there are aspects of e-business that concern university administrators. Not only do administrators need to consider how to phase in new technology, but they also need to consider other factors. A study was conducted to investigate how social factors affect college students' use of the online registration system at a private university that recently introduced the new technology (Cao & Brodnick, 2002). The independent variables included academic variables (major, class, GPA, degree level) and demographic variables (gender, age, ethnicity, and family income). The results indicated that some of the academic and demographic factors affected students' use of online registration. Students from particular disciplines (e.g., Pharmacy and International Studies) and higher income families were more likely to use the online service. Students who did not use the online registration were more likely to be were music majors. The study implies that social factors such as academic emphasis and

family income impact students' adaptation to new technology. In another study, students who had no record of having used the college's online registration system were surveyed (Cartnal, 2000). In the study, 304 useable surveys were analyzed. The results suggest that the number one reason students chose *not* to use the online registration over traditional registration methods was that other methods were perceived to be easier (43% of the students gave this response). Of the 43%, 23% also indicated that they did not have Internet access at home, and 17% of this same group indicated that their confidence level in using the Internet was a barrier to using the online registration system. Institutions should consider these implications when implementing new technology, being sensitive to that part of the student body that may have difficulty in adapting. Institutions might consider providing support structures and optional methods for registration until students have adequately learned the new technology.

As noted in another study, the Toronto School of Continuing Studies spent more than 85% of its marketing budget to produce, print, and distribute 400,000 copies of its print course calendar (Barrie, Dahlin, & O'Connor 2001). Based on telephone interviews (N = 816) the survey findings indicated that people looking for detailed course information preferred using the printed calendar, but registrants found it easier to register for a course using the Web site. Overall, the results indicated that the School of Continuing Studies could likely switch from the print calendar to a Web site calendar without affecting registration, provided that registrants be given the choice of requesting a print calendar.

Research Questions

Results from the Colorado State University Summer 2002 Student Survey (524 students) indicated that 63% of the respondents used the hardcopy of the Summer Class Schedule to learn about course offerings, and 81% reported that the hardcopy was useful to them. This was a surprise to the summer administrators who thought that students were using the "RAMweb" (CSU's online registration system which includes the schedule of classes) more than the hardcopy. Since the fall and spring class schedules are no longer available in print form, the Summer Session administrators decided to learn more about students' preferences regarding how they access summer information. An online survey was designed asking students what information they used for Summer Session (course listings, registration information/procedures, courses at a glance, campus services and events, etc.) and in what formats they access the information (hardcopy and/or Web site).

Research Method

To determine if the Summer Session Office should continue printing a hardcopy of the summer class schedule, an online survey was conducted in Spring 2004 to solicit feedback about the summer schedule from students. Over 3,000 undergraduate students were randomly selected, with the exception of seniors who would be graduating in Spring 2004. The student e-mail system was used to make contact with the students. The survey was open to students for two weeks in March and April of 2004. Students were asked to complete the short online survey by linking to the URL of the survey. The Summer Session Office was able to determine if a student answered the survey, but the student's responses were anonymous. Students were informed that they would be eligible for the drawing of a CSU sweatshirt. Students were also informed that their responses were anonymous and that they could only respond once. Students were asked their current class level; if they plan to attend Summer Session 2004; if they plan to attend future summer sessions; how they plan to access the Summer Class Schedule information; and what features of the Summer Class Schedule they use. The open-ended questions were:

> What is it that you like about the hardcopy of the Summer Class Schedule?
>
> Any comments that you would like to make about Summer Session are welcomed.

Results

Overall Results

Of the 3,000 students who were invited to complete the survey, 438 responded, a return rate of 14%. Below are tables that summarize the responses to the categorical questions.

Current Class Level (N = 433)

	Percent	Number of Responses
Freshman	23.56%	102
Sophomore	27.48%	119
Junior	29.79%	129
Senior	19.17%	83

Do you plan to attend Summer Session 2004? (N = 438)

	Percent	Number of Responses
Yes	34.70%	152
No	45.21%	198
Not Sure	20.09%	88

Do you plan to attend future Summer Sessions after Summer 2004? (N = 438)

	Percent	Number of Responses
Yes	29.22%	128
No	32.42%	142
Not Sure	38.36%	168

How do you plan to access the Summer Class Schedule information? Check all that apply. (N= 438)

	Percent	Number of Responses
The hardcopy of the Summer Class Schedule	71.00%	311
The online Summer Class Schedule	53.65%	235

What features of the Summer Class Schedule would you use? Check all that apply. (N = 438)

	Percent	Number of Responses
Listing of Courses with dates, times, prerequisites, restrictions, etc.	90.64%	397
Registration Information/Procedures	64.16%	281
Courses at a Glance (courses by terms)	58.45%	256
Core Curriculum Courses at a Glance	51.83%	227
Campus Information/Campus Services	21.23%	93
Special Summer Programs and Events	36.30%	159

Results by Class Level

A chi square analysis was performed between class level and the other variables. Frequencies were expressed as the percentage of respondents for each of the four class levels. Significance was set at $p \leq .05$. Approximately a 7% difference between class levels was significant. All percentage estimates were ±10%. There was a significant difference among class levels and plans to attend Summer 2004. There was an

increasing likelihood of attendance from freshman through senior year (figure 1). There was a significant difference among class levels and plans to attend future summer sessions. That is, there was a decreasing likelihood of attending future summer sessions from sophomores to seniors (figure 2). There was no significant difference in class level and the use of the hardcopy of the class schedule (figure 3). There was significance by class level and the use of the online schedule. A greater percent of freshmen and seniors use the online schedule than sophomores and juniors (figure 4). There was no significance between class level and students' use of the information regarding course lists, dates, times, prerequisites and restrictions or students' use of the information regarding the registration procedures (figures 5 and 6). There was a significant difference among class levels and students' use of the feature "Courses at a Glance" (courses by summer terms). Seniors and juniors use the feature less than sophomores and freshmen (figure 7). Likewise, there was a significant difference among class levels and students' use of "Core Courses at a Glance." Greater numbers of freshmen and sophomores use this information than juniors and seniors (figure 8). No significance was found among class levels and students' use of information regarding the campus and campus services (figure 9). Lastly, there was significance among class levels and the use of the feature regarding special summer programs and events. Freshmen use this feature more than the other class levels (figure 10).

Figure 1

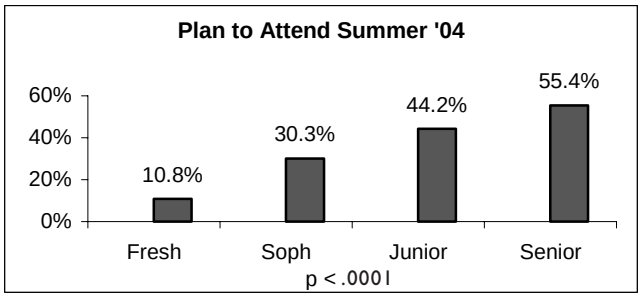


Figure 2

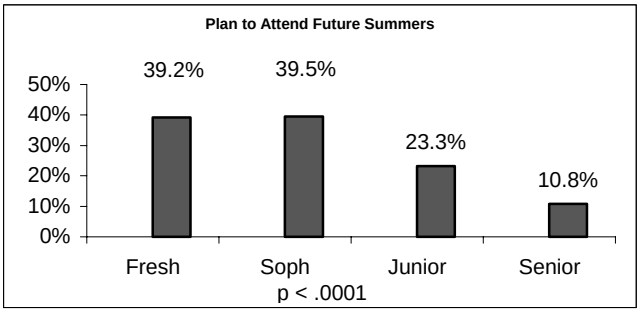


Figure 3

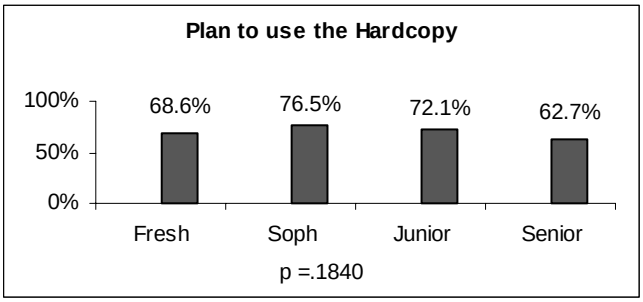


Figure 4

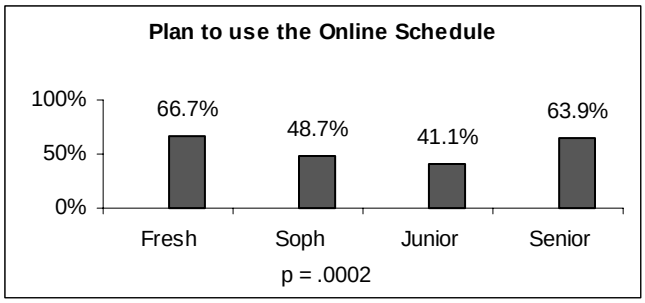
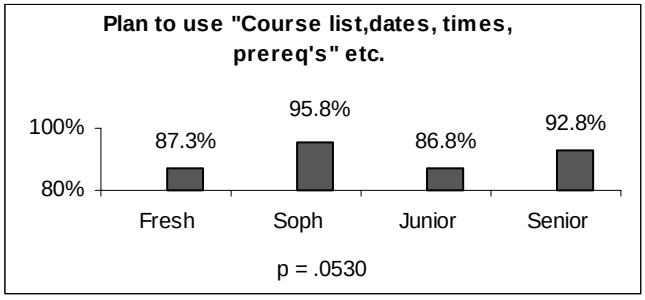


Figure 5



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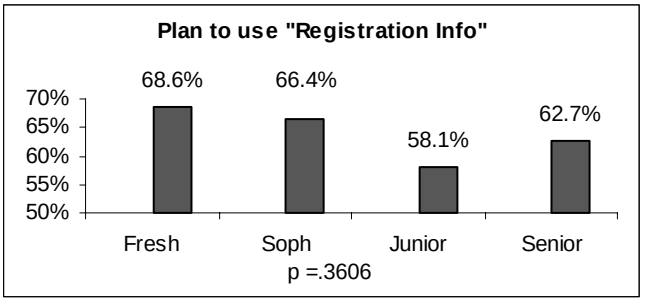
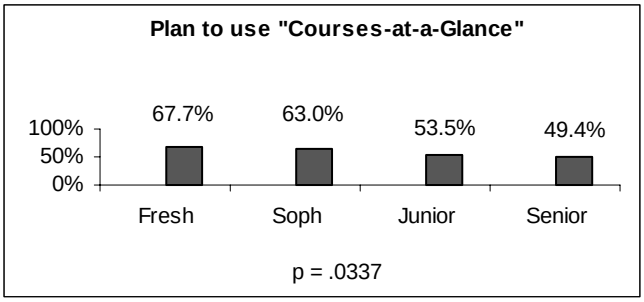


Figure 7



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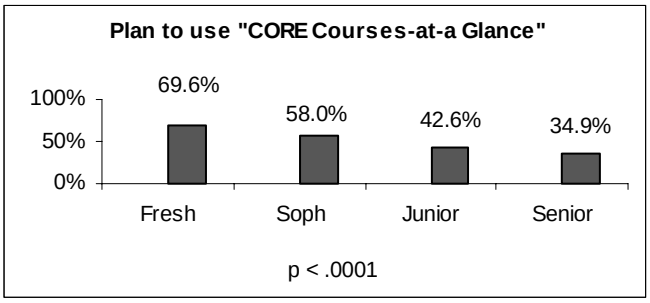


Figure 9

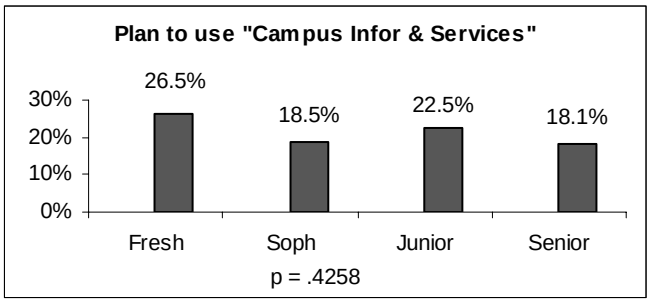
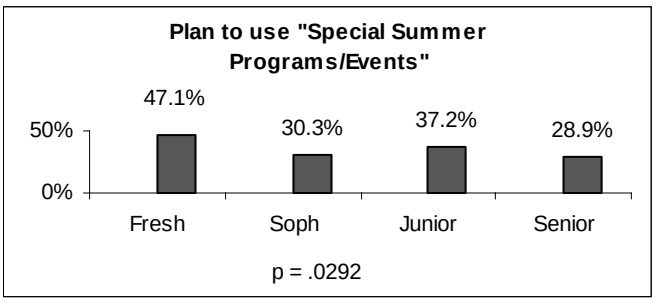


Figure 10



Results of Open-Ended Responses

There were 363 comments for the open-ended question: "What is it that you like about the hardcopy of the Summer Class Schedule?" Most of the open-ended comments supported continuing the printed copy of the class schedule, but 30 students stated that they prefer the online schedule and that they don't use the hardcopy. Nine students commented that they do not have a computer at home and that it's inconvenient to access a computer at a different location.

The general themes from students' comments supporting the printed schedule were:

Not dependent on a computer
Time limit on Ramweb is frustrating
Easier to find courses/sections
Easier to plan my schedule
Can review/plan my schedule anywhere, anytime – printed schedule is portable
Can write notes, mark pages, highlight courses, etc.
Can find courses of interest and course for electives
Visual clarity
Don't have to switch through screens
Easier to compare classes, class times, and options
Easy to read
Can look at the entire schedule
Makes it easier to actually register (review and write out classes beforehand)
More time efficient
Quick reference, easily accessible
Ability to highlight options and prepare future schedules

There were 66 responses to the open-ended survey statement, "Any comments that you would like to make about Summer Session are welcomed." Seventeen comments related to the online and printed summer class schedule. The majority of these comments requested that the hardcopy of the summer class schedule continue to be printed, but several students stated that they liked the idea of "saving paper" by providing the schedule online. Other comments addressed the benefits of summer school such as earning credits in a short period of time, lightening one's fall course load, and catching up on courses. A few concerns were submitted regarding tuition costs and course conflicts.

Discussion

More sophomores and juniors responded to the survey, 27% and 29% respectively, which corresponds to the summer student profile at CSU.

The sophomores generally would become juniors after spring semester, and the juniors would become seniors. The majority of the CSU summer students are juniors and seniors. There were significance among class levels, plans to attend Summer 2004, and future summer sessions. More juniors and seniors planned to attend Summer 2004, while more freshmen and sophomores plan to attend summer school in the future. These statistics parallel the university's summer student profile.

That a greater number of freshmen and seniors planned to use the online schedule than sophomores and juniors was an interesting observation. Perhaps the freshmen come to the university with more computer savvy and are comfortable with the online schedule. Perhaps the seniors have fewer options in choosing classes and thus it is easier to find the needed courses online.

Fewer seniors and juniors planned to use the features "Courses at a Glance" and "Core Courses at a Glance" than freshmen and sophomores. This is understandable because freshmen and sophomores are more likely to need the core courses. Juniors and seniors likely have more specific courses that they need to complete and thus are bound to courses in whatever term they are available.

As expected, the information students want available to them includes a list of courses with dates, times, prerequisites, restrictions (90.6%), and registration information (64%). Less than a fourth of the students responded that they would avail themselves to information about the campus and campus services. Because the students surveyed were admitted, degree-seeking students who were already familiar with the campus, it's not likely that they need the campus information. The Summer Office provides that information and the special summer program information for the 15-20% of the summer students who are visiting students.

There was a flaw in the survey regarding the open-ended questions in that students were asked what they liked about the hardcopy of the class schedule but not what they liked about the online version of the class schedule. Students should have been asked both questions. By asking both questions, the feedback would have been enriched. On the other hand, because the survey was conducted online, students who had an aversion to using the Internet may not have answered the survey.

The Associated Students of Colorado State University (ASCSU) annually conducts a student survey and invites academic units to submit questions for the survey. The Summer Session Office submitted the question: "The fall and spring class schedules will be available only online. In addition to the online Summer Class Schedule should the Summer Session Office continue to provide the hardcopy?" Of the 1,618 students

who responded to the question, 696, or 42.75%, answered "yes"— continue the hardcopy, while 922, or 56.63%, answered "no"— do not continue the hardcopy. These data were inconsistent with the results from the online survey in which 71% of students reported that they use the hardcopy. Perhaps this indicates that those students who took the time to complete the online survey preferred the hardcopy of the class schedule and took the opportunity to provide that feedback. Another explanation might be that when students responded to the ASCSU survey, which was conducted several months before the Summer Session survey, students were not thinking about attending summer school and responded that they would not use the hardcopy of the summer schedule.

The results indicating that students utilize the printed schedule may be inflated, but there was evidence that part of the student population prefers the printed version: 71% of the students from the Summer Session online survey, and over 42% of the students from the Associated Students survey requested that the hardcopy be continued. Responses to the open-ended questions may indicate the differences in students' learning styles. Generally speaking, learning modalities (and methods for processing information) include visual, auditory, and kinesthetic styles. Students who tend toward visual styles may favor the printed schedule. They like to read the material, take notes, highlight classes, etc. Learning modalities may be another factor in students' preference for printed or online formats.

Conclusion

There was confirmation that the printed copy of the summer class schedule is valuable to a significant portion of the student body. The Summer Session Office will continue to print the summer class schedule in some form. It may not be necessary to print an elaborate document with a colorful cover but the basic information seems to be what the students want. Over time it is likely that the hardcopy will be used less and that the summer office will decrease the quantity of the printed version. To maximize service to all who have an interest and need in summer school, the summer administrators foresee having printed material available for those students who prefer to use hardcopy. Even though the online survey was addressed to students who were currently enrolled in Colorado State University, it is likely that a portion of visiting students too would want printed schedules available to them. As other institutions have indicated, the cost of the printed class schedule has been a considerable part of the marketing budget and going online with the schedule can significantly reduce that cost. But an institution does not

have to completely eliminate the printed class schedule to reduce costs. It is probable that fewer schedules will be requested as students adapt to the online format. Thus institutions can greatly reduce the printing costs. Additionally, printed schedules can be produced less expensively using lower grade paper, less color, fewer pages, etc., especially if it is apparent that students are mainly interested in essential information. Universities are indeed moving more and more to the electronic age and that seems to be good as the incoming students are adapted to the computer age. But until it becomes evident that students no longer want access to the printed summer class schedule, our summer administration will continue to print it. It's one way to make summer school more user-friendly and accessible to a wide range of students.

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