

Improving Student Engagement through Technology

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Introduction

Recently higher education institutions have become increasingly concerned about the issue of student engagement in learning. In response to internal and external pressures, university administrators are looking for better ways to keep students focused on academics and to retain larger numbers of students. According to the National Survey of Student Engagement (NSSE) “Student engagement represents two critical features.” First, “the amount of time and effort students put into their studies and other educationally purposeful activities; and second, how the institution deploys its resources and organizes the curriculum, creates other learning opportunities, and support services to induce students to participate in activities that lead to experiences and outcomes that constitute student success.” This paper focuses on the second aspect of student engagement. The NSSE is based upon the premise that the more students engage in a learning activity; the more learning actually takes place (National Survey of Student Engagement, 2002 Annual Report). Survey items for NSEE were developed according to the following principles of good practice in undergraduate education described by Chickering and Gamson 1987): student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, and respect for diverse talents and ways of learning.

Saint Xavier University was part of the initial public offering of NSSE in Spring 2000. The institution also participated in the 2001 and 2002 national surveys. Results from the first survey were mixed; it took the university community by surprise, and challenged long-held institutional views and assumptions about student learning. The institution’s low performance on benchmarks for active/collaborative learning and student/faculty interaction especially surprised administrators. Skepticism about the reliability and validity of the results prompted a replication of the study locally. The response rate on this replication was quite high (80% compared to 40% for NSSE), but the result reaffirmed the original NSSE findings. The second year data of NSSE further confirmed the data from the first year.

Catalyst for Change

The university has responded to these results by initiating several changes to address the problems highlighted by NSSE data. Other issues the university wishes to address include the retention of freshmen and assimilation of transfer students into the university community. NSSE has become a vehicle for creating a shared understanding of assessment of student learning and institutional priorities. New initiatives have been introduced in the past two years. Some of these initiatives are anchored by the use of technologies – the redesign of a freshman seminar class to include the introduction of Blackboard content management system to address pedagogical and curricular issues, use of e-portfolio to document and assess student learning, and inclusion of technology in the institution's faculty development program through a competitive multimedia technology integration grant.

Promoting Active and Collaborative Learning

The NSSE findings reveal two areas of concern for the university: active/ collaborative learning and student-faculty interaction. The university currently offers a seminar class required of all students for graduation. The seminar is designed to promote success, to improve critical thinking skills, and to help identify key points in reading and key issues in an intellectual discussion or argument. Seminar activities are designed to improve the ability to develop and support ideas persuasively, enhancing performance and enriching class discussions in all of the courses taken by students in their respective programs.

The institution revised the seminar course in 2002-2003 academic year to include a technology component. A decision was made to provide reading material online for student access. There are two ways to access the document; it can be downloaded as a single PDF document or the student can download relevant portions of the text for each class period. A separate environment was created in Blackboard for each section of the course – there are twenty-three sections in all. The Center for Academic Technology provided training for all faculty members teaching the sections. The workshop section covered the basics of using Blackboard and online teaching techniques.

Feedback from students so far has been very positive. Yet, a few issues related to the implementation of a technology-enhanced course environment for the SXU seminar class remain. Some faculty members involved in teaching sections of the seminar classes are not fully utilizing the environment because of heavy reliance on traditional classroom methods. Some students are still learning how to use the technology and therefore, navigating the course environment and completing assignments online poses problems. These issues are currently being addressed and new strategies will be adopted next academic year.

Blackboard

The Blackboard content management system was introduced in 2001 after faculty evaluated other content management system software. Blackboard was overwhelmingly selected as the official learning and teaching management tool because of the following qualities:

- Easy conversion of data from previous systems into Blackboard environment
- Scalability of the software depending on demand
- Familiar interface
- Integration of several active learning features
- Content sharing and storage
- Assessment tool for self assessment and for quizzes

Blackboard was piloted in Fall 2001 with selected courses from the four different schools of the university – Arts and Sciences, Business, Education, and Nursing. Blackboard was marketed as a tool that can be used by faculty who are familiar with technologies. This group of faculty members was selected as part of the test group. Rollout to the general faculty began immediately after the pilot. As part of the implementation, the Center for Academic Technology organized a series of workshops covering the features in Blackboard and the pedagogical implications of using the tool in the teaching/learning process. Initial response to Blackboard was very positive, and over the course of two semesters, we have witnessed a sharp increase in the number of faculty who use Blackboard to complement traditional classroom instruction (Fig. 1).

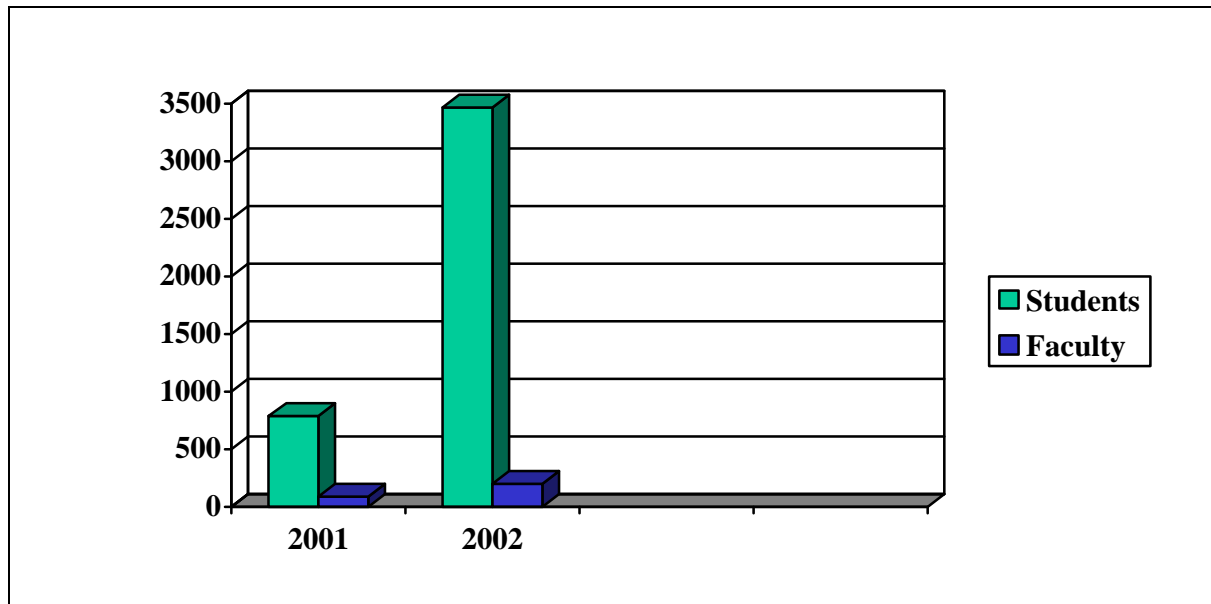


Figure 1

Increased student engagement through Blackboard use is reflected in increases in the number of Blackboard sessions. The number of Blackboard sessions increases when the university is in full session and decreases during holidays (Fig. 2).

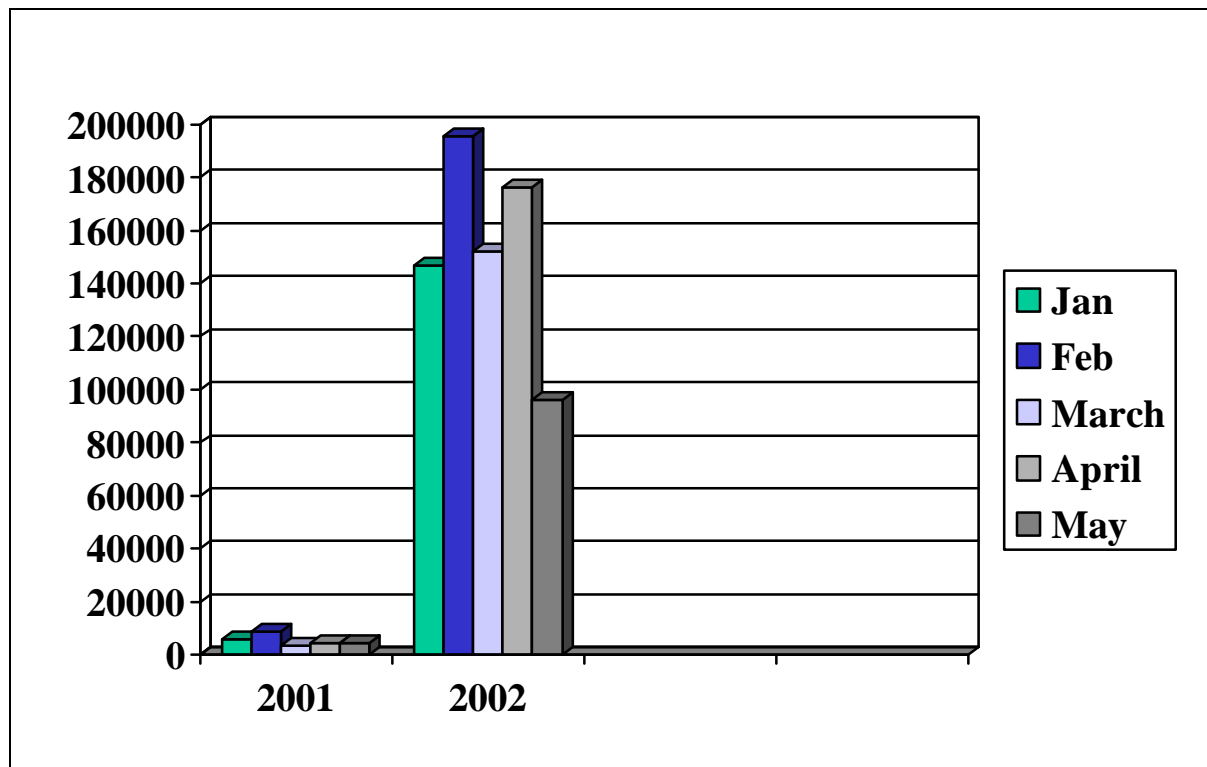


Figure 2

Although Blackboard has an integrated interface that combines several necessary tools for active learning, faculty members do not utilize all the tools. The differences in the use of Blackboard features mirror the skills level of faculty members. Some faculty members are at the early adoption stage of integrating technology into their courses and are comfortable with the use of the document sharing and the announcements feature, while others with advanced skills utilize the more challenging features of the system. Because technology use is mostly incremental in nature, faculty members are encouraged to use whatever features they feel comfortable with to build confidence.

The initial emphasis was on faculty technology workshops for those interested in using Blackboard. The number of faculty attending these group workshops has dropped off significantly over the past year, reflecting the fact that once faculty members are familiar with the basics of Blackboard, they prefer one-on-one consultation session focusing on problems related to the use of Blackboard and in-depth pedagogical issues using Blackboard in the teaching/learning process.

The use of Blackboard for instruction also alerted the institution to issues related to support services, especially the lack of an adequate support program to help students using technology for in and out of classroom instructional activities. The university is largely a commuter institution and receives a large number of students from area community colleges. Some of these students are not technically savvy which has implications for technology use and training university-wide. This issue is gradually being addressed through support from the Learning Assistance Center (LAC) and the appointment of graduate assistants to handle student-training issues.

Web Portfolio

According to Siegle (2000) ‘One popular strategy for documenting students' learning and accomplishments is the student portfolio. A portfolio of student work across time can provide an invaluable snapshot of a student's current skills, as well as provide an opportunity for the student to reflect on his or her growth as a learner.’ For the past several years the Saint Xavier University teacher preparation program has been exploring ways to move beyond the traditional model of clinical observation. The Technology in Clinical Practice Program's central emphasis is on communication made possible by new media between pre-service teacher and mentor, pre-service teacher and P-12 students, and faculty mentor/mentee teams. These efforts require intense professional activity in a supported, nurturing environment. The goal of gradual and supported induction into the profession of teaching has long been embraced by accrediting agencies and more recently by the State of Illinois.

In addition, Saint Xavier University pre-service teachers are often exposed to or explicitly taught the use of technology in their methods courses. This program requires the actual use of technology in pre-student teaching clinical experience. In order to remain competitive in the employment market, Saint Xavier University teachers need to be able to demonstrate the use of technology in their teaching

The Technology in Clinical Practice Program is designed to facilitate professional growth in the uses of pedagogical technology by both pre-service and in-service teachers and to build strong educational partnerships between P-12 schools and the Saint Xavier University teacher preparation program. The program emphasizes the value of mentoring and of structured, supervised clinical experiences as key components in the development of new teachers.

The program matches pairs of pre-service teachers (in separate elementary and secondary methods classes) with experienced in-service mentor teachers who will design and implement collaborative projects in technology-enhanced instruction. The pairs of students work with their mentor teachers to develop teaching lessons, which include the use of technologies such as PowerPoint presentations, Web-based assignments (including Web research and critical thinking, Internet communication, and the use and creation of multimedia documents), and subject-specific software. Through a series of three workshops, mentor and pre-service teachers receive training in technologies, which match their teaching situations. Mentor teachers, in consultation with their mentees, select software to be used in the class. Pre-service teachers spend five class periods teaching lessons, under the supervision of both the mentor teachers and the University faculty teaching the methods courses. In order to facilitate communication about instruction, mentor teachers and pre-service teachers communicate using a listserv and methods course website. As part of the final course project assignment, pre-service teachers develop electronic portfolios documenting their knowledge of and use of technology. These activities are planned and implemented in accordance with the program's goals, which have been adopted from International Society for Technology in Education's guidelines for the Application of Technology in Instruction.

Instructional Technology Integration Grant

Technology integration into the curriculum is only possible through strong support from university administration. The university continues to invest in technological infrastructure for both administrative and instructional purposes. Several initiatives have been implemented to encourage faculty use of technology for personal and instructional purposes. While many efforts have been successful in encouraging faculty to use technology, faculty members are not necessarily requiring students to use technology at a significant level. The university currently has a new grant program to support faculty members integrating technology into their courses. This program is administered by the Center for Academic Technology (CAT) and the Center for Educational Practice (CEP).

Faculty members compete for funding through proposals intended to infuse technology into the curriculum and instruction. The grant proposals are reviewed and ranked for final selection by members of the Center for Educational Practice. Faculty members whose grant proposals are successful are required to partner with the staff of the Center for Academic Technology in the design and development of their project. These development activities take place in the Spring and Summer of each academic year against Fall term implementation.

Conclusions

The use of Blackboard course management, web portfolio, and writing software in writing labs can transform the classroom from a passive to an active learning environment. The instructor is no longer seen as the sole provider of information but a facilitator of the learning process through threaded discussions and online mentoring. The result is better engagement of students with the university in ways that increase learning outcomes and retention. As student engagement through the use of technology increases university-wide, the campus IT infrastructure and support services must increase accordingly, which requires additional expenditure. Increased expenditure resulting from a technologically engaged campus is offset by increased tuition revenue resulting from higher retention.

References

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