Using Technology to Reduce the Effects of Missed Classes for Student-Athletes

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Abstract

Academic athletic advisors have the difficult task of arranging class schedules for student-athletes so that they can take advantage of their educational opportunities, while at the same time taking into account the number of classes that will be missed because of athletic competitions. This paper discusses how the Office of Student-Athlete Support Services at a Division I university attacked the missed class problem by developing an innovative lecture capture technology program to record missed classes. This program greatly reduced the effects of student-athletes being away from class and feedback from both faculty members and student-athletes revealed a high level of satisfaction with the use of this technology. Further, with the success of this program for student-athletes, the use of lecture capture technology increased greatly throughout the university with the widespread support of deans, department heads and senior university administrators.

Keywords: Lecture capture; athletic competitions; excused absences; class recordings; technological innovations

Introduction

Academic athletic advisors provide a wide-range of support services to help student-athletes develop and enhance the skills that are necessary for their personal growth and academic well-being. The National Collegiate Athletic Association (NCAA) also has an interest in these areas and recently adopted a comprehensive reform package designed to improve the academic success and graduation rate of all student-athletes. The centerpiece of this academic reform package is the development of a new academic measurement for intercollegiate sports teams, known as the Academic Progress Rate, or APR. The APR measures the extent to which student-athletes on a particular team remain academically eligible for competition and stay in school. A team that has an APR below a minimally acceptable standard faces penalties from the NCAA and is required to develop an improvement plan to bring its APR up to the standard.

Accompanying this attention to the academic well-being of student-athletes is a widespread and growing concern about the number of classes that are missed as a result of athletic competition. This concern led the NCAA to require colleges and universities to analyze and explain, in their Athletic Department's certification self-study report, the extent to which they believe that missed classes were a problem for their student-athletes in each of the sports in which they participate.   In instances where the amount of missed class time was found to be either significant or excessive, the institution was required to develop a plan for improvement.

The one sport in which missed classes appears to be of greatest concern is Men's Basketball. For this sport, the NCAA passed a regulation in 2009 that requires each institution's Faculty Athletics Representative (FAR) or Athletics Committee to approve their Men's Basketball schedule prior to the start of each semester.   The FAR or Athletics Committee, in approving the schedule, must take into account the number of classes that will be missed by each member of the team. The issue of missed class time was also highlighted when the NCAA announced in Spring, 2010, that it was increasing the number of teams that would be selected for its Men's Basketball Championship Tournament. Discussions about reducing the number of missed classes by shortening either the length of the regular season or by reducing the number of allowable contests have also been raised in Men's Basketball and in other sports.

This paper describes the challenges faced by one Division I university in addressing the missed class problem for its student-athletes and how its Office of Student-Athlete Support Services was able to greatly reduce the negative effects of missed classes by developing an innovative lecture capture technology program to record missed classes. These recorded classes were made available to all members of the class thus providing benefits to all students, not just to the student-athletes. Further, the successful use of lecture capture by the student-athletes led to the increased utilization of this technology throughout the university for a variety purposes and with a high level of administrative support.

Missed Class Problem for Student-Athletes

There are various reasons for the increasing number of missed classes by student-athletes. These include, for example, conference realignment whereby many schools are now travelling further to compete against conference opponents, additional television broadcasts in which attractive matchups are scheduled between teams in different regions of the country, and the cost of travel. In attempting to address the missed class problem, many colleges and universities have developed specific guidelines regarding the allowable number of missed classes that student-athletes can have in a particular course during a semester. One such university policy is given below:

> *"The UNCW Department of Athletics is committed to the academic success of its student-athletes. To support student-athlete academic responsibilities and obligations, the Department of Athletics monitors class attendance and the degree progress of its student-athletes. As established by the Athletic Council, student-athletes will not have more than five absences per class in a given semester for athletic travel and competition." (University of North Carolina Wilmington, 2010)*

The missed class problem for student-athletes was a major concern for university administrators at a large Division I school that was a member of a conference in which a majority of its twelve member schools were at least 500 miles away from the university's main campus. Given in Tables 1 and 2 are the number of classes that student-athletes, participating on seven sports teams for this university, missed during the Fall, 2010, semester.   These numbers were exclusive of any conference or NCAA championship appearances. As shown in Table 1, approximately two-thirds of the 162 student-athletes missed less than ten classes in all of their courses combined during the semester.

Table 2 indicates that the majority of the student-athletes missed no more than three classes in any single course during the semester. However, there were 86 instances in which a student-athlete missed four or more classes and most of these missed classes occurred during the first two months of the semester. It should be noted that due to the relatively large number of contests, student-athletes participating in three Spring semester sports (Men's Basketball, Women's Basketball and Baseball) miss far more classes than student-athletes participating in Fall semester sports.

Table 1. *Total Number of Classes Missed by Student-Athletes during the Fall 2010 Semester*

Number of missed classes	Number of students	Percentage
3 or fewer	31	19.1%
4-6	23	14.2
7-9	53	32.7
10-12	39	24.1
13-15	15	9.3
16-18	1	.6
Total	N=162	100.0%

Table 2. *Total Number of Classes Missed in a Particular Course during the Fall 2010 Semester*

Number of missed classes	Number of courses	Percentage
1	116	22.1%
2	210	40.1
3	112	21.4
4	55	10.5
5	30	5.7
6	1	.2
Total	N=524	100.0%

Because of the concern expressed by student-athletes and faculty members about the growing number of missed classes, the University's Director of the Office of Student-Athlete Support Services and its Faculty Athletics Representative, with the support of the administration, embarked on a program to investigate the feasibility of providing recordings of classes missed by student-athletes while they were competing. These two individuals joined forces with the Associate Dean for Undergraduate Business Programs, and two members of the university's Office of Academic Technology Services, to determine the feasibility of such an effort.

Lecture Capture

Lecture capture technology records what takes place in a classroom. This includes, for example, the actual lecture or discussion, all that is written on the blackboard, and all computer screen activity including text, spreadsheets, slide presentations and websites. Lecture capture systems that are currently available are easy to use even for faculty who are averse to trying new technologies in the classroom. With the recent advancement in technology, the number of colleges and universities using some form of lecture capture has increased considerably. Further, as noted in a commercial white paper (Datamonitor, 2007), the lecture capture market is one of the fastest growing and most highly innovative sectors of the educational training market.

The university's Director of Academic Technology Services along with other members of the Project Team considered a number of different competing lecture capture systems before deciding on a system

offered by Tegrity. The decision to use this particular system was based upon a review of a number of different factors. These factors included cost, ease of use, automatic processing capability, ability to integrate with Blackboard and ability to support any device, including web cameras, which could be connected to a computer. The Project Team wanted a system that supported both Mac and Windows based operating systems and which was capable of providing standard usage reports by user, faculty member and course. Finally, it was important that the technology adopted not be equipment or technologist heavy. The Tegrity program was loaded on the classroom computers. The only other equipment needed were web cameras and wireless microphones, neither of which was prohibitively expensive.

After a session is recorded using Tegrity, the system automatically makes the recording accessible for students to listen or to view. Current technology also allows, at a professor's discretion, for the class session to be accessed live as the class is actually taking place. Figure 1 gives a full screenshot of an instructor which also allows students to see what is written on the blackboard.
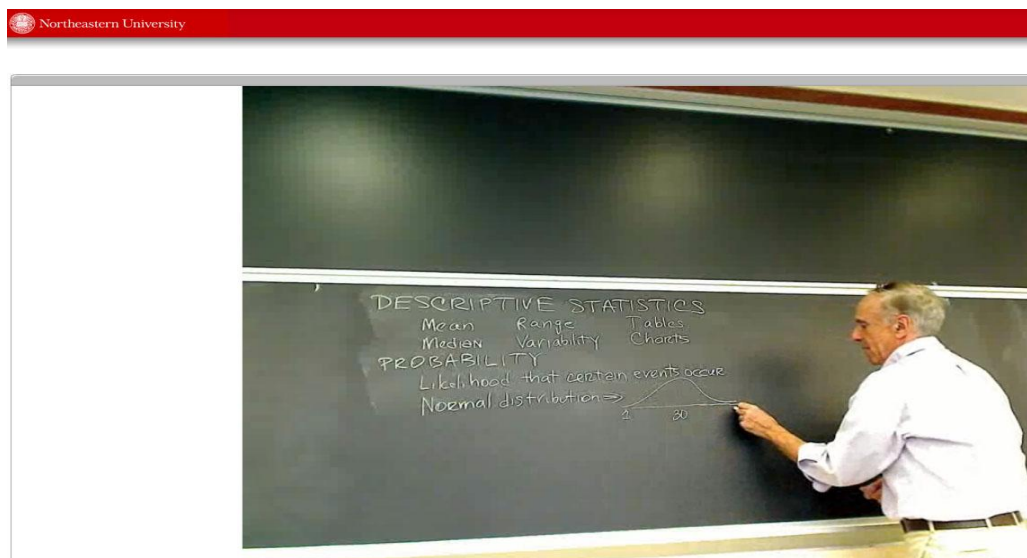

Figure 1. *A Full Screenshot of the Instructor in a Lecture Capture Recording*

A second Tegrity screenshot is given in Figure 2. In this screenshot, the student is able to view the faculty member teaching while viewing powerpoint slides. In addition, as shown on the left hand bottom portion of the screenshot, the student is also able to insert bookmarks and notes.

With Tegrity, a student-athlete could be waiting in an airport or riding in a bus and at the same time watching the class that he/she is missing. The recording can be accessed using Blackboard, Facebook, iPhone, iPod Touch or iPad. There are numerous features of the recordings that make them especially attractive to students. These include the ability to go back and forth to review material at any point during the class and the ability to search for any word or phrase presented in class as text. The recordings have also been especially useful for those international students who do not have a strong command of the English language and for all students who have difficulty obtaining a full and accurate set of class notes. Particularly attractive is the option of allowing students to "slow down" what occurred in the classroom.

Implementation Issues

A pilot program using lecture capture technology for student-athletes took place in Fall, 2009. A key part of the implementation process was communication between individual professors teaching student-athletes and the Director of the Office of Student-Athlete Support Services. The instructors received either a personalized correspondence or an e-mail from the Director including a request for voluntary participation in a pilot program whose purpose was to reduce the effects of missed classes for student-athletes enrolled in their courses. Also, the correspondence indicated that the technology would be easy to use and that the actual course recordings would be available to all students not just to student-athletes.

Additionally, personalized training was provided to all participants including the offer to meet the instructor in their classroom prior to class time to make sure the technology worked properly and to answer any last minute questions. This offer was made available until such time that the instructor no longer believed that he or she needed such assistance. If an instructor did not respond to the initial correspondence requesting participation, then a request was made in person by one or more of the student-athletes enrolled in the class. In addition, the Associate Dean for Undergraduate Business Programs and the Faculty Athletics Representative reached out to individual faculty members.
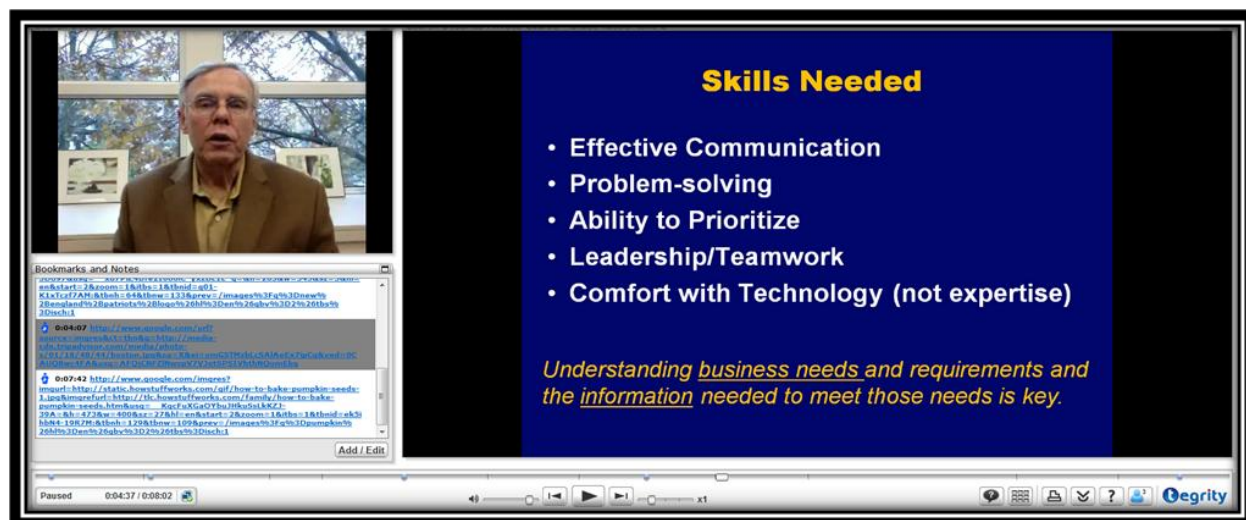

Figure 2. *Screenshot Displaying Instructor and Powerpoint Slides*

Overall, faculty members were supportive of the program; but some were opposed to it for a variety of reasons. These included concerns about a potential decline in attendance, class sessions being posted on an unauthorized Internet site and made available to those outside of the class, unresolved copyright ownership related issues and a general reluctance of using new technology in the classroom. The attendance issue was not relevant in our case since class sessions were only recorded on days in which student-athletes were away and it would be unlikely for other students to know which days these were. Further, the findings in numerous studies have indicated that lecture capture has had only a marginal, if any, effect on class attendance (Bassili, 2007; Brotherton and Abowd, 2004; Mentch, 2008; Russell and Mattick, 2005; Traphagan, 2005; von-Konsky, et. al., 2009; and White, 2009). The other concerns have been previously noted by Legum et al. (2010) and Greenberg and Nilssen (2009), but were held by only a small number of our faculty members.

Results

The pilot program was offered to those student-athletes who were expected to miss at least four class sessions. The reason for limiting recordings to this group of student-athletes was mostly due to resource constraints, both financial and manpower.   Some initial investment was necessary for wireless microphones and webcams and manpower was necessary for training purposes and for classroom visits as some faculty, from the start, only agreed to participate if assistance would be provided at the classroom site. As word spread about the use of the technology, the Office of Student-Athlete Support Services received requests from faculty members not having student-athletes in their classes. These faculty members requested that the technology be made available for their classes as well. The most enthusiastic support for the program came from faculty members in the College of Business Administration and the College of Health Sciences.   Since it was the desire of the Project Team to build support for the use of lecture capture and because outside faculty members did not require much additional support, such requests were routinely granted.

The pilot program proved to be an immediate success. Although there were some technological glitches, these glitches did not prove to be a major issue since the Project Team included the Director of Academic Technology Services and his chief assistant.   Due to the success of the pilot program, which included the

participation of 25 faculty members and a total of 95 classes being recorded for student-athletes, a proposal was developed for full funding for the program. Financial support was received from the Department of Athletics, the Provost's Office, the Office of Enrolment Management & Student Affairs and the College of Business Administration. The College of Business Administration's support was due, in part, to its having a substantial number of student-athletes, and also because the College was interested in using lecture capture for other purposes. With full funding secured, the program expanded during the next semester and, in total, 55 faculty members participated in the Spring semester and 445 class sessions were recorded. Included in this number were classes missed by one member of the Women's Hockey Team who was competing for her home country during the 2010 Winter Olympics in Vancouver.

In order to obtain feedback, a survey was conducted of faculty members who had a course recorded during the academic year. In total, fifty-seven faculty members participated in the survey, for an overall response rate of approximately 60%. As shown in Table 3, there was strong support for the program. Overall, 88% percent of the faculty members who participated in the survey said that they would recommend the technology to a colleague and 81% said they would use it again if given the opportunity.

The responses of faculty members who had been at the university for at least ten years differed significantly from those of faculty members who had been at the university for less than ten years on a number of different dimensions. Specifically, senior faculty members were more likely (i) to say that they would recommend the technology to a colleague (96% vs. 79%) and (ii) to believe that class recordings were of value not only to student-athletes who missed the class session, but also to students who attended the recorded class (76% vs. 50%). In addition, male faculty members were significantly more likely than female faculty members to say that they would recommend the technology to a colleague (100% vs. 74%).

Table 3. *Faculty Members Agreeing with Various Statements regarding Lecture Capture*

		Gender		Years at the University	
Statement	Overall (n=57)	Male (n=30)	Female (n=27)	Less than 10 (n=29)	10 or more (n=28)
Lecture capture can help improve my teaching.	42%	36%	48%	42%	42%
I made changes in the way I taught my course.	33	33	33	45***	21
Class recordings are of value to students who attend class	62	61	64	48**	75
I would recommend lecture capture to a colleague.	88	100*	74	79**	96
I would record again if the technology were available	81	83	78	72	89

*Significant difference between males and females (p<.01).

**Significant difference between those with less than 10 years at the university and those with 10 or more years at the university (p<.05).

***Significant difference between those with less than 10 years at the university and those with 10 or more years at the university (p<.10).

Given below are two of the verbatim comments that were given in the survey by faculty members regarding their experiences.

> *"Overall the system was easy to use. I would like the technology to be made available for all classes on campus, not just those with student-athletes."*

> *"Simply having it available to me to use for the benefit of ALL students in my class was wonderful. I was able to refer students to the recordings so that they could more actively review material instead of relying solely on me to repeat points made during class."*

Faculty members were especially enthusiastic as many indicated that students asked fewer "please repeat," but more substantive questions in class than in the past. The students as a whole also did better in their exams. Overall, student-athletes were very positive about the usefulness of recordings for study purposes and appreciated that the program was being made available to them and to their classmates. The program's success was noted by the NCAA in a feature article posted on its website and in its quarterly publication, *NCAA Champions Magazine (2010).*

Discussion

Lecture capture technology was introduced with a specific goal in mind – provide a level playing field for student-athletes who had to miss classes as a result of their athletic schedules. While lecture capture cannot replace the experience of being in class, it does provide the student-athlete with both an oral and visual experience that much more closely replicates the class than does reading another student's notes. Because the recorded classes were available to all students in the class, there were no questions about fairness.

The fact that this was such a targeted program contributed to its success. For faculty members, there was a very specific reason for participating in the program and using the technology; the faculty member had a student-athlete in the class and that student-athlete was going to miss classes because of an excused athletic contest. The technology was introduced to meet a clear educational need and to serve a well-defined purpose. Faculty members who might not otherwise try this kind of technology were willing to participate because of their student-athlete.

Several observations can be made about this program and about introducing technology in general. First, the Project Team determined that it was critical to provide one-on-one support to faculty members participating in the program in order to lessen any concerns about the use of the technology. While this put a stress on human resources, especially in the Office of Student–Athlete Support Services, it ultimately was a key element in the success of the pilot. Faculty members were willing to sign on and to continue to use the technology throughout the semester because the support was available and dependable. And, not all faculty members required continued support. Some quickly adapted to the technology and even chose to record all classes. If a technical glitch did occur, and they were rare, faculty members were instructed to just move on with their lecture. This seemed to relieve some of the initial anxiety about trying this new technology. The second element in the success of the program was the effort made to reach out and inform faculty members and administrators at all levels about the program and its potential. Team members met with deans, associate deans, and members of the Provost's Office, presented at faculty meetings, and met with individual faculty members who had student-athletes in their classes. The FAR presented at the Faculty Senate and spoke with students. These efforts helped to spread the word about the program and to garner support from senior administrators.

Beyond the clear benefits to the student-athletes when they are in season, there are other benefits to lecture capture technology that began to be apparent to faculty members once they were introduced and experienced it. For example, it is easy to take the step from recording a class for a student-athlete to recording for a student who has jury duty or emergency surgery or another sort of university-sanctioned event.

One of the benefits of the FAR's presentations at faculty meetings is that faculty members began talking about other uses. Since the introduction of the lecture capture technology, faculty members have pre-

recorded lectures that they then made available while they were attending a conference. They have also recorded sessions where they were explaining something sufficiently intricate that it would be helpful for students to review. An example of this is beginning instruction in statistical packages. Faculty members have also recorded and posted explanations for assignments and for exam reviews. In the College of Business Administration, faculty members have also recorded review sessions on critical concepts in the business disciplines. These review modules are posted on the Blackboard community, available to all students in the college.

Lecture capture technology is also valuable in helping faculty and students improve their presentation skills. In the survey, a number of faculty members commented that reviewing their recordings caused them to revise their teaching. Junior faculty members, who often have had no instruction on classroom teaching, can use the lecture capture technology to record their lectures and then self-critique them. This can be an effective complement to peer visits to the classroom. The survey results shown in Table 3 support this use by junior faculty. Lecture capture technology is also being used to help students improve their presentation skills. As with faculty members, seeing and hearing one's presentation can be an effective learning tool.

Summary

When potential student-athletes were recruited, they were told that they would be able to compete in intercollegiate sports and obtain an excellent education. However, due to a variety of factors, the number of missed classes increased substantially in recent years for some of our student-athletes. In an attempt to reduce the effects of missed classes, the university decided to use lecture capture technology. While lecture capture was not a perfect substitute for the classroom experience, it did allow student-athletes to keep up with their studies while they were on the road competing.

The response to the introduction of lecture capture was overwhelmingly positive. This is, perhaps, best illustrated by the following comments made by two student-athletes regarding the pilot program:

> *"I listened to all of the lectures that she puts up on there. There are currently 7 lectures on Tegrity right now so that is how many I have listened to. Tegrity works really well with my situation so I'm just happy that it's available for this class." (Student-athlete – Men's Hockey)*

> *"Things are looking good. I got a 99 on the test that was on the material I missed. I was able to watch every class and it helped a lot." (Student-athlete – Baseball)*

Not only were the results positive for student-athletes, but they also were positive for other students and for faculty members teaching these classes.

Introducing new technology in the classroom is not easy. Some faculty members are understandably resistant to using a new technology because they fear there will be glitches that will detract from their teaching. In order to serve the student-athletes, and other students who are forced to miss class for a valid reason, thought needs to be given to how the technology is implemented. In this pilot program, providing one-on-one assistance in the classroom was critical to getting faculty to a comfort level with using the technology. And, it was important to continue the assistance until faculty members were comfortable operating the technology on their own. Having the support of the deans and other senior administrators was also an important element in its success. They provided not only financial support, but also recognition of the faculty members involved in the program. Most important, the student-athletes were and continue to be key players in the success of the program which has now seen widespread adoption by faculty members throughout the university including those who do not have student-athletes in their courses. This, in turn, has generated increased student satisfaction and a substantial amount of goodwill for the Athletics Department.

Lecture capture technology was introduced to meet a very specific need – missed classes by student-athletes. As faculty members have become comfortable with using it for this purpose, they have identified other uses that enhance their students' learning. Many have come to appreciate that lecture capture technology can support and complement the work that they do in the classroom.

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