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Using a Role-Play Video to Convey Expectations about Academic Integrity

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ABSTRACT

We have developed an instructional video that uses role-play to illustrate the differences between acceptable behavior and cheating on assignments. Since we began showing it in an introductory chemical engineering course, the average number of confirmed instances of cheating decreased slightly, but the average percentage of students who were caught cheating and appealed our accusation to the campus Judicial Board dropped from 24% pre-video to 1% post-video. We conclude that the video makes students aware of what constitutes cheating in our course, may reduce the incidence of cheating, and increases the likelihood that students who are caught cheating will admit their fault and accept the penalty.

Keywords: Cheating, academic integrity, video

INTRODUCTION AND LITERATURE REVIEW

In an increasingly competitive job market, students view getting high course grades as critical to eventually finding a good job or getting into a good graduate school, and this attitude impels some of them to cheat. For faculty, the challenges should be to create an environment in which students see no need to cheat, to minimize the likelihood of cheating, to detect it when it occurs, and to deal firmly but fairly with the cheaters.

Academic integrity violations (such as cheating on tests and assignments) are rampant at universities across the United States. In a recent study, 75% of students surveyed admitted to cheating at least once while in college [1]. Another study showed that there has been a four-fold increase in the past 30 years (from 11% to 49%) in the number of students who admitted to collaborating on

assignments when the instructor asked for individual work [2]. A 2007 study reported that 90% of engineering students have access to textbook solution manuals, and 75% of those students routinely use the manuals when completing graded homework assignments [3]. This phenomenon will only grow with time as more solution manuals become available on publishers' web sites and open "knowledge sharing" sites.

Multiple studies have revealed that the incidence of cheating varies substantially across disciplines [2,4–6], with professional majors such as business and engineering having the highest reported instances. Passow and colleagues [6] found that older students (4th and 5th year undergraduates) cheat significantly more than first-year students on exams, and second-year students tend to cheat more on homework. Studies have also shown that a student's moral compass strongly influences cheating or non-cheating behavior. Students who believe that any form of cheating is wrong will seldom commit a violation, while students who rationalize that the end may justify the means (e.g., cheating is justified by the need to maintain a certain GPA to keep a scholarship) are relatively likely to commit academic integrity violations [1,7,8]. In addition, students' definitions of cheating often vary considerably from teachers' definitions. For example, 23% of students in a recent study said that copying another student's homework is "unethical but not cheating" [6]. For international students, the fraction that does not regard homework copying as cheating may be even higher [12]. In a recent survey, 42% of students at an American-style university in the Middle East believed that copying homework is not cheating [12].

The national trend of increasing academic integrity violations has been mirrored in North Carolina State University's sophomore gateway chemical engineering course we teach entitled Chemical Process Principles (CHE 205). We first became conscious of increased cheating when Excel problems began to be assigned and students were caught submitting duplicate files. These types of violations were much easier to detect than copying of problem sets because of the electronic stamp on the file. We began tracking violations in 2004 and observed increases in both their frequency and the incidence of student protests that they did not understand why the behavior in question was an academic integrity violation.

A clear theme in the academic integrity literature is the importance of setting specific expectations and communicating them clearly [6, 10, 13]. In response to our observations, we undertook a series of measures to clarify to the students what does and does not constitute cheating on homework, and also to raise their awareness of the consequences of cheating. We began by making specific modifications to the course syllabus to outline our expectations and those of the university regarding academic integrity, and we discussed these expectations on the first day of class. We felt that more explicit guidance was needed than we were providing in our discussion of the syllabus, however, and we decided that showing would be more effective than telling. With the help of students in the

N.C. State Department of Communications, we developed a video depicting behavior that might be viewed as academic misconduct. In this paper we provide links to the video modules and discuss the design, use, and effectiveness of the video.

THE ACADEMIC MISCONDUCT PROCESS AT N.C. STATE UNIVERSITY

The following list outlines N.C State's process for dealing with a student charged with academic misconduct:

- The faculty member has a one-on-one conversation with the student to discuss the infraction and hear the student's story, and then decides whether to file a formal academic integrity charge. (The NCSU Office of Student Conduct has an excellent guide on how to confront a student).
- If a charge is to be filed, the faulty member fills out a form describing the infraction and the proposed penalty. If the student chooses to sign the form, admitting guilt and accepting the penalty, the form goes on file with the campus Office of Student Conduct. If a subsequent incident occurs prior to graduation, the automatic penalty is suspension for at least one semester.
- The student can instead decline to sign the form, contest the charge, and have a hearing either before the Judicial Board (which is constituted of student justices and faculty representatives) or an administrative hearing before an official in the Office of Student Conduct. The outcome of the hearing may be to dismiss the charge, uphold the proposed faculty penalty, or impose a more stringent penalty than the one originally proposed.

Although this process generally works quite well, many faculty members are reluctant to file a formal charge because of the time and inconvenience that are often involved in pursuing it. Instead, they tend to either handle it "internally" or overlook the violation. The problem with this approach is that students may accumulate a string of unreported incidents in multiple courses that are not recorded at the university level, literally cheating their way to a degree. When faculty support of academic integrity policies increases, the incidence of cheating decreases [9], and recent data suggest that students believe strictly enforced academic dishonesty policies would deter their cheating [6].

Our hope was that preparing the academic misconduct video and showing it to the students at the beginning of the semester would serve three purposes:

1. Reduce the incidence of cheating
2. Increase the likelihood that students caught cheating would simply admit it rather than appealing to the Judicial Board

3. Help persuade faculty members to pursue the formal academic misconduct procedure in their own classes rather than attempting to deal with cheating incidents informally

DESIGN OF THE VIDEO

In CHE 205, initial homework assignments are individual, and later assignments are completed by 3- or 4-person student teams. Our goal was to help the students understand what was acceptable and unacceptable behavior for both individual and group assignments. During the summer of 2006 we wrote a simple skit that depicted examples of academic integrity violations we had witnessed first-hand in previous semesters. Co-author Melvin, a graduate student in Chemical and Biomolecular Engineering who had served as a Teaching Assistant for the course for several semesters and the primary instructor for one semester, was the primary author of the skit. Over the next two years the live skit evolved into a 15-minute video containing the following sections:

- **Introduction** – An overview of our course expectations regarding academic integrity
- **What is Cheating** – Some obvious and not-so-obvious examples of cheating behavior
- **Cheating on Individual Assignments** – Authorized and unauthorized aid when two students work on a problem together
- **Cheating on Computer Assignments** – Examples involving students working in the computer lab
- **Cheating in the Student Lounge** – Examples (including some particularly sneaky methods of cheating) involving groups of students working in the student lounge
- **Conclusion** – Our take home message to the students

The video implements a few different techniques for illustrating the point of each section:

1. **Yes/No** – A series of examples of students working together when they are supposed to complete a problem set individually, each followed by the question: "Is this cheating?"
2. **Can You Believe This?** – Humorous but real ways of cheating that we have encountered
3. **The Wrong Way** – An example of two students working together on a problem, assigned individually, in an inappropriate manner
4. **How to provide aid without providing the answer** – An example that illustrates each of the three types of authorized aid, according to the syllabus language:
    a. Discussing the interpretation of the problem statement
    b. Sharing ideas or approaches for solving the problem
    c. Explaining the concepts involved in the problem

Technique 2 is usually used in tandem with technique 1. For example, we show a student digging through the garbage to pick up another student's discarded work and then ask if this is cheating.

The video concludes with our take home message: "Cheating isn't worth it. You will get caught; it may taint your future academic career; and, ultimately, you will not learn what you need to know on the exams, in later courses, and in your careers."

MAKING THE VIDEO

Initially, the script was designed to be performed as a live skit in front of the class on the first day of classes. Due to the space restrictions of the classroom, we could only have two actors (a 'good' and a 'bad' student) and one narrator (the instructor). Although the novelty of having two classmates acting out examples in front of the class was appreciated by the students, this presentation format had disadvantages. Students seated at the back of the class could not get a good view of the actors and had trouble hearing what they were saying, and students who missed the first day of class or came late did not get to see the performance at all. We therefore sought to find a better vehicle for the skit.

Luckily, an opportunity arose for collaboration with the NC State Department of Communications. One of the courses offered as part of their curriculum is entitled Advanced Digital Video and includes a requirement of the filming, producing, and editing of a video. We offered to provide a detailed script while the six students in the course would handle all of the pre- and post-production work and all of the filming. The entire video was filmed over a six-hour period on a Sunday afternoon in the Chemical Engineering building at multiple locations such as a lecture hall, the computer lab, and the student lounge. The two primary actors from the live skit (one being the co-author, Melvin) reprised their roles, while extra roles were filled by students who happened to be in the building that afternoon. The final result was a fifteen minute video on a DVD. Screen shots from the video are reproduced in Figure 1. There was no cost to our department other than providing DVDs to burn copies of the final product since the work was performed as part of a student project.

Judging by student response, the video has been an enormous improvement over the live skit. It is shown during the first recitation section (instead of the main lecture) of the course, which involves significantly fewer students than the main lecture and provides an environment more conducive to discussion. The teaching assistant or instructor can pause the DVD at any time to discuss the examples with the class or ask if they have questions. Additionally, by having the video on a DVD that can be shown to any student at any time, we were able to eliminate the issue of students missing the video and hence the message.

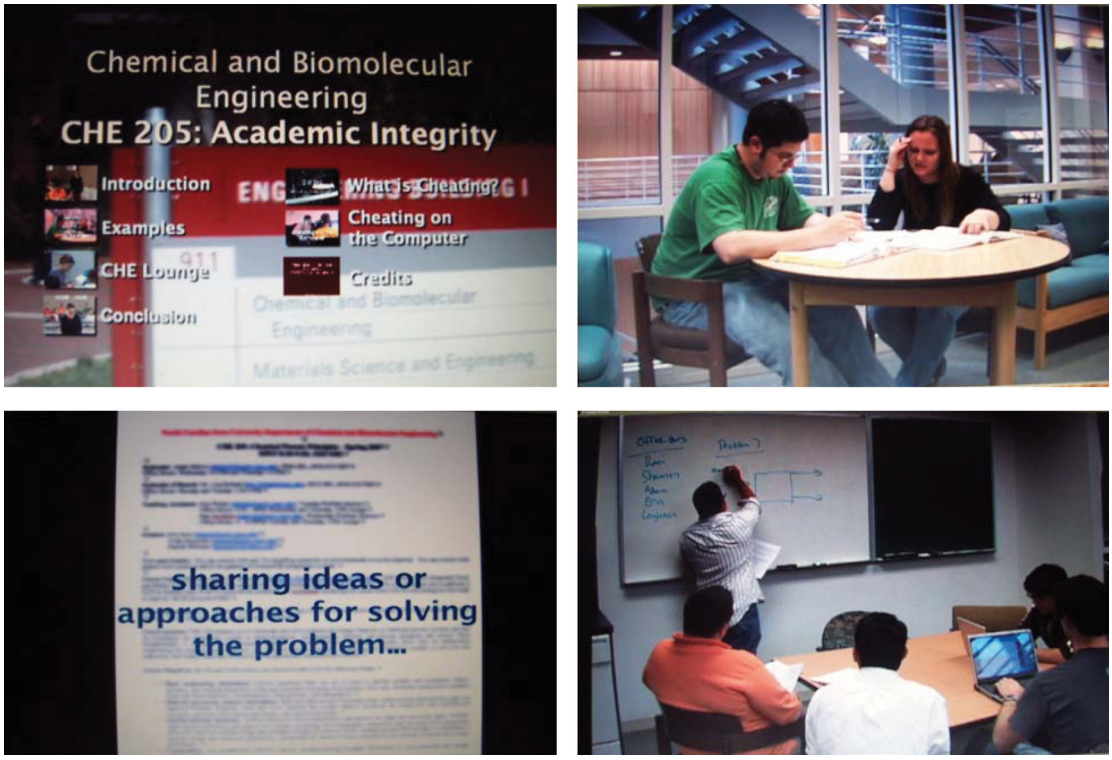

Figure 1: A Sampling of Images from the Video (clockwise from the upper left): *The root menu of the DVD with all six chapters; a shot of two students working together on a problem; group work during a TA's office hours; and a heading shot showing one type of authorized aid.*

ASSESSMENT

The skit was first performed on the first day of class in the semesters of fall 2006 and spring 2007. In fall 2007 and fall 2008 it was shown at the beginning of the first recitation session and was also made available to any student who missed that session, so we could guarantee that all students in the course saw it. In fall 2009 students completed a reflection assignment for homework that required them to watch the videos on-line and respond to several short answer questions. One or both of the co-authors taught the course in each of the listed semesters. The graders were the "front line" to identify suspected cheating. If the instructor agreed with the TA's suspicions, he or she confronted the accused students and filled out the academic misconduct report form if it appeared to be warranted ("Number of students with reported violations"). The students could admit to cheating and

sign the form (admitting guilt) or decline to sign and contest the charge. The data on students caught cheating before and after we started showing the video are presented in Table 1.

The data in Table 1 show that once we began to show the video, the incidence of cheating between Fall 2006—Fall 2008 decreased by an amount that varied between 20% and 60% from one semester to another, with an average decrease of about 40%. (This held true until Fall 2009, when the number of cheating cases increased by 1% above the pre-video figures). All but one of the sixty-three students who were caught cheating post-video admitted guilt rather than requesting a hearing. The accused students were told that the clear warning in the video would be entered as evidence in the hearing, and our conjecture is that they realized they would have little chance of convincing the Board that they did not know that what they did was cheating.

We believe that cheating incidents have decreased post-video for several reasons. First, students are more aware of what constitutes cheating through the use of the video scenarios. Second, students realize that we are serious about academic integrity and will report suspected incidents of cheating.

One interesting yet troubling development is the increase in cheating incidents that result from students having access to unauthorized solutions. Prior to Fall 2008, almost all of the incidents were students working together or copying Excel files. Beginning in Fall 2008, an increased percentage

CHE 205 Offering (N = number of students)	Percent of enrolled students who had a reported violation	Percent of students with violations who contested the charges and requested a hearing	Percent of students who requested a hearing and were subsequently found guilty
Fall 2004 (N = 100)	9.9%	30.0%	100%
Fall 2005 (N = 112)	10.0%	18.2%	100%
Fall 2006 (N = 109)	8.3%	0%	N/A
Spring 2007 (N = 76)	4.1%	0%	N/A
Fall 2007 (N = 123)	8.3%	0%	N/A
Fall 2008 (N = 162)	5.1%	0%	N/A
Fall 2009 (N = 173)	11.0%	5%	100%
Average 'Pre-Video' (Fall '04-'05)	10.0%	24.1%	100%
Average 'Post-Video' (Fall '06 onward)	9.2%	1%	100%

Table 1: Summary of Academic Integrity Violations: *The statistics for CHE 205 over the past seven semesters reporting on total enrollment, students caught cheating, and students who admit to the cheating behavior.*

of the cases (50% in Fall 2008 and 90% in Fall 2009) are students who have accessed unauthorized copies of the solution key on-line and duplicated the solution key for part or all of their solution. (Usually they are caught because they duplicate typos in the solution key). During the Fall 2008 semester, the instructors became aware that copies of the instructor's solution manual had been posted to public "information sharing" websites and were therefore relatively easy to find using search engines such as Google. Unfortunately with the proliferation of such sites, this aspect of academic integrity will continue to grow. Although the scenario of "Googling" the solution and finding it on another school's web site is addressed in the video, it was not a focus of the video since that type of incident was infrequent when the video was filmed.

After seeing these results, other faculty members in the department who had been reluctant to use the university's formal academic misconduct system or who had negative experiences in the past have started using the university process. In particular, Bullard frequently coaches other faculty who have not dealt with cheating cases before and often sits in on their initial meetings with accused students. Her role as the Director of Undergraduate Studies in the department makes this appropriate and desirable for the protection of both the faculty member and the student. After one such session, the faculty members usually feel confident enough to handle subsequent cases on their own. This change in attitude on the part of the faculty may be one of the most significant accomplishments of this work.

USE OF THE VIDEO BY OTHER INSTRUCTORS

Instructors can show the complete video or specific sections relevant to the kind of assignments they give. While the video makes references to CHE 205 at North Carolina State University, the instructors can make clear which of the stated rules apply to the course they are teaching and where the rules differ. (For example, they may have different policies than ours regarding the use of old homework solutions or the extent to which students can work together on individual assignments). Another option for instructors is to use the video to prompt their own development of scenarios specific to their class, which they could then share in written form in the syllabus or via a simple skit involving TA's or upperclassmen.

CONCLUSION AND SUMMARY

We believe that the video containing concrete examples of appropriate and inappropriate methods of how to provide aid to fellow students on assignments has accomplished its objectives. It

has eliminated much of the ambiguity students previously used to contest academic misconduct charges, substantially reduced the incidence of cheating, and eliminated appeals to the Judicial Board. It has also simplified our discussions with students caught cheating because all we have to do is mention (or show) the video to remind them that they had been told their behavior would be considered cheating.

Unfortunately, no precautions or strategies will ever totally eliminate cheating. Some students, even with heightened awareness, are willing to take the risk in order to get a better grade. The best we can do is to minimize the incidence of cheating and to impose meaningful consequences when it occurs, but it is critically important to do that. Our responsibility as faculty members is not just to teach course content but to prepare our students for their professional careers. Dealing with cheating effectively in college will make its occurrence less likely after graduation, when the potential consequences of integrity violations are much more severe.

We propose that the video could be an invaluable tool for other faculty members, especially those who are hesitant to bring up their students on formal charges due to their fear of having to go through the distasteful and laborious task of documentation and a possible hearing. It is easy to use, leaves a lasting impression, and so far has a near-flawless record of encouraging immediate admission of academic misconduct.

RECENT WORK

Faculty at NC State and other institutions have expressed an interest in obtaining access to the videos and to other resources which have been described in this paper. These are now publicly available through the NC State Office of Faculty Development web site along with other examples of syllabus language and scenarios used by faculty. A summary of materials has been posted on Bullard's faculty web site. Bullard has also recorded a 90-minute webinar entitled, "Dealing with Issues of Academic Integrity in the Larger Classroom."

As a result of discussions with faculty colleagues in the Department of Chemical and Biomolecular Engineering at NC State, students were asked to complete a "reflection assignment" on the topic of academic integrity as the first homework assignment in CHE 205 in Fall 2009. The hope is that this will not only educate students about the expectations in CHE 205 but will begin to create and foster a departmental culture of integrity.

In recent months we have become aware of web sites such as http://www.coursehero.com/ and other "inquiry-based learning networks" where students are either charged a fee to access course materials/solutions or asked to upload content in order to access other students' content. The

faculty in our department have responded by asking students in all of our classes to sign a form, "Restriction on Sharing Content of Course Material with Third Parties." This is also an opportunity for faculty to talk with students about this issue as it relates to intellectual property.

As the instructors gain additional experience in dealing with cases of cheating, they plan to include additional scenarios and discussion related to appropriate ways of collaboration and any specific instances which are encountered of violating the academic integrity policy.

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Implementation of an Experience-Based TA Training Session was awarded the best ASEE Graduate Studies Division Best Student Paper Award (2008). He is currently finishing his PhD under the direction of Dr. Jason Haugh.

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