AC 2009-266: SEEING IS BELIEVING: USING A ROLE-PLAY VIDEO TO ESTABLISH EXPECTATIONS FOR ACADEMIC INTEGRITY

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Seeing is Believing: Using a Role-Play Video to Establish Expectations for Academic Integrity

Abstract

A drastic increase in undergraduate cheating at universities throughout the United States has been well documented in recent years. We have seen dramatic illustrations of this trend in our sophomore gateway course in chemical engineering, repeatedly catching students trying to submit work that was not their own or collaborating inappropriately on individual assignments. The most common excuse students have given for their behavior is ignorance of what constitutes cheating. To combat this disturbing rise in integrity violations, we have developed an instructional video that graphically illustrates the differences between acceptable behavior and cheating on assignments. The video is organized around role-plays of scenarios we have personally observed in the recent history of the course.

The video has been shown to students for four semesters in the past two years during either a lecture or a recitation session, and our interviews with students who are caught cheating always include a reminder of the video and how their infringement relates to a specific example in it. Since we began showing it, the average number of confirmed instances of cheating only decreased from ten to eight per semester; however, the number of students who challenged our accusation by appealing to the campus Judicial Board dropped from 30% of the students pre-video to 0% of the students post-video. Based on these findings, we conclude that although the video does not drastically reduce cheating, it successfully educates the students on what constitutes cheating so that, when caught, they admit their fault and accept responsibility.

Introduction

The university classroom creates a multitude of opportunities and challenges for both the student population and faculty teaching the class. With rising enrollments in engineering curricula and greater numbers of students matriculating per year, higher emphasis is placed on course grades as a metric for student distinction which results in amplified pressure on the students to not only succeed, but to excel. This leads some students to try and find an easy way out, namely cheating. For faculty, the challenges are to minimize the likelihood of cheating, to detect it when it occurs, and to deal sternly but fairly with the cheaters.

Academic integrity violations (such as cheating, lying, and stealing) are a widespread epidemic 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). Multiple studies have revealed that the incidence of cheating varies substantially across disciplines (2,3,4,5), with majors such as business and engineering having the highest reported instances. Passow and colleagues (5) found that older students (4th and 5th year undergraduates) cheat significantly more than first year students on exams, while second year students tend to cheat more on homework. The authors speculate that this observation could reflect a risk/reward system that changes over time. Cheating on homework has a much lower risk of detection than cheating on an exam;
however, the reward for getting a higher exam score is much greater than for a higher homework score. Additionally, the authors found that frequent high school cheating correlates with greater instances of cheating at the university level. As for how to best prevent instances of cheating behavior, they found that a student’s moral compass most strongly guides cheating or anti-cheating behavior. Students who believe that any form of cheating is wrong will never commit a violation while students who can 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 more likely to commit academic integrity violations (1,6,7).

Externally imposed and self-imposed pressures on students to maintain high grades at all costs are not going to go away. The task of educators is to continually develop new methods to combat student cheating that extend beyond just telling students “Don’t do it!” In this paper we discuss the development, use, and effectiveness of a video that demonstrates what does and does not constitute cheating on homework.

**Cheating in an introductory engineering course**

The growing national trend of increasing academic integrity violations discussed above has been mirrored in North Carolina State University’s sophomore gateway chemical engineering course entitled Chemical Process Principles (CHE 205). We first became conscious of rising academic integrity violations 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 academic integrity violations in 2004 and observed increases in both the number of student violations and the incidence of student protests that they did not understand why the behavior in question was an academic integrity violation. In response to these 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.

The bullet points below describe 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.
- If a charge is to be filed, the faulty member fills out a form describing the infraction and the proposed penalty. The student can choose to sign the form, admitting guilt and accepting the penalty. If this happens, 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 decline to sign the form, contest the charge, and have a hearing either before the Judicial Board (which is comprised 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, to uphold the proposed faculty penalty, or to 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 might be involved in pursuing it. Instead, they tend to either handle it “internally” or overlook the violation. The problem with this approach is that the students may accumulate a string of unreported incidents in multiple courses that are not recorded at the university level. This trend is highly disturbing and can only be dealt with by greater faculty vigilance. In fact, recent data suggest that students feel that enforced academic dishonesty policies would deter their cheating (5). Additionally, a negative correlation has been found between faculty support of academic integrity policies and the incidence of student misconduct (8). It is the responsibility of each faculty member to address this increase in academic integrity violations by making active changes to their syllabus and course in order to better inform their students of their expectations.

In an effort to reduce academic integrity violations, we began by making specific modifications to the course syllabus (see Appendix A) to outline our expectations and those of the university regarding to academic integrity. The wording of the syllabus language was based on recommendations from North Carolina State University Office of Student Conduct. We spent time on the first day of class to discuss these expectations. However, we felt certain that more was needed, so we decided that showing would be more effective than telling to help students understand what constitutes cheating in this course. With the help of students in the N.C State College of Design, we developed a video in which depicted behavior that might or might not be viewed as academic misconduct. After each scene, the viewers were asked to speculate on whether or not they would consider the behavior cheating; and then we stated and briefly discussed our viewpoint. The sections that follow describe the video content and the filming process.

**Script Design**

In CHE 205, some homework assignments are individual and others are completed by 3- or 4-person student teams. Our goal was to help the students understand what was and was not acceptable 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, and over the next two years the live skit evolved into a detailed 15-minute video. The video contains the following sections (also see Figure 1):

- **Introduction** – An overview of our course expectations regarding academic integrity and the seriousness with which we take violations
- **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 method 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, followed by asking 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 which 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

By integrating these formats into the content of each section, we were able to make a dynamic video that keeps the students engaged while simultaneously teaching them about the appropriate
way to collaborate with each other on individual assignments. Figure 1 shows the narrative flow of the video. For instance, technique 1 is used during the section entitled ‘What is Cheating’ to show general examples of cheating while techniques 3 and 4 are used in ‘Cheating on Computer Assignments’ to exhibit how to properly help another student debug a spreadsheet. Technique 2 is usually delivered 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 or is not cheating. However, we have found that the students tend to be laughing too hard to answer the yes/no question at the end of the segment because these examples are so blatant. Finally, 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

The progression from the skit to the video was an evolutionary process. Initially, the content 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) performing the skit. Although the novelty of having two fellow students 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. 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 North Carolina State Department of Communications. One of the courses offered as part of their curriculum is entitled Advanced Digital Video, whose senior course requirement is the filming, producing, and editing of a video. We offered to provide a detailed script while the six students in Communications 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 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 DVD with a title menu and credits that fully captured all of the examples. Screen shots from the video are reproduced in Figure 2. There was no cost to the department other than providing DVDs to burn copies of the final product since the work was performed as part of a student project.

The video has been an enormous improvement over the live skit as judged by student response. The video was 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 in charge of the section 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.
Impact of the Video

The skit was first performed during the first day of class in the semesters of fall 2006 and spring 2007. During the semesters of fall 2007 and fall 2008, the video was shown at the beginning of the first recitation session and was also made available to any student who missed the first recitation class, so we could guarantee that all students in the course saw it. One or both of the co-authors taught the course in each of the listed semesters. The data on number of students caught cheating pre- and post-video implementation are presented in Table 1. We hoped to see a dramatic decrease in the number of academic integrity violations when we began to show the video. The observed change in student behavior did not entirely meet our expectations, but the results were clearly positive.

The graders were the “front line” to identify suspected cheating. If the instructor agreed with the TAs 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.
Table 1 – Summary of Academic Integrity Violations: The statistics for CHE 205 over the past five semesters reporting on total enrollment, students caught cheating and students that admit to the cheating behavior.

<table>
<thead>
<tr>
<th>CHE 205 offering</th>
<th>Total enrollment</th>
<th>Number of students with reported violations</th>
<th>Number of students who requested a hearing</th>
<th>Percent of enrolled students who had a reported violation</th>
<th>Percent of students with violations who contested at a hearing</th>
<th>Percent of students who requested a hearing and were subsequently found guilty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2004</td>
<td>101</td>
<td>10</td>
<td>3</td>
<td>9.9%</td>
<td>30%</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2005</td>
<td>110</td>
<td>11</td>
<td>2</td>
<td>10.0%</td>
<td>18%</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2006</td>
<td>109</td>
<td>9</td>
<td>0</td>
<td>8.3%</td>
<td>0%</td>
<td>N/A</td>
</tr>
<tr>
<td>Spring 2007</td>
<td>49</td>
<td>2</td>
<td>0</td>
<td>4.1%</td>
<td>0%</td>
<td>N/A</td>
</tr>
<tr>
<td>Fall 2007</td>
<td>120</td>
<td>10</td>
<td>0</td>
<td>0.3%</td>
<td>0%</td>
<td>N/A</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>158</td>
<td>8</td>
<td>0</td>
<td>5.1%</td>
<td>0%</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The “students who requested a hearing” are those in the second category, who subsequently had an administrative or Judicial Board hearing to plead their case. The last two columns of Table 1 show the percentage of students who requested a hearing and the percentage of hearings that led to a guilty verdict. A comparison between “students with reported violations” and “students who request a hearing” is depicted graphically in Figure 3.

![Instances of Reported Cheating vs. Number of Hearings Requested](image)

Figure 3 – Effect of the video on student behavior: A comparison between students suspected of cheating and students who admitted to the cheating behavior. A visible drop in the number of students requesting a hearing coincides with the implementation of the skit/video in fall 2006.

The video did not lead to a consistent decrease in cheating incidents but rather a decrease in the number of students who contested the accusations. The accused students were told that the clear
warning in the video would be entered in the Judicial Board hearing, and they presumably realized that they would have little chance of convincing the Board that they did not know what they did was cheating. Our conjecture is that this realization led them to sign the form.

**Discussion**

Ultimately, we believe that providing students with concrete examples of appropriate and inappropriate methods of how to work on problem sets individually and how to provide aid to fellow students has eliminated much of the ambiguity that previous students used to escape academic misconduct charges. Although we did not observe the desired decrease in instance of cheating, we have been pleasantly surprised with the increase in student awareness and dramatic decrease in having to attend the campus Judicial Board hearings. We propose that one of the greatest advantages of the video is that it streamlines the process for prosecuting students guilty of academic misconduct. The video has almost completely eliminated the likelihood of a Judicial Board hearing in our course. Furthermore, a discussion with a guilty student is much easier because all we need to do is mention the video to remind the student that what they did was considered cheating. As a result, we believe that our 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 hassle of documentation and a possible hearing. We have already established how important faculty support is to upholding the high standards set by most universities with regards to academic integrity and the responsibility is to each faculty member to uphold these rules. The video is easy to use, leaves a lasting impression, and has a near flawless record to encourage admission of academic misconduct. We feel that the video could be just the tool needed to encourage our shy colleagues to step up and do their part in the battle against cheating.

The decrease in the number of hearings while the instances of cheating remain mirrors some of the observations made by Passow and colleagues (8) regarding why a student cheats. We previously believed that cheating behavior was on the rise due to a lack of student understanding of what constitutes cheating; however, our data suggest that this is not the case. If it was a misunderstanding, then one would expect the instances of cheating to decrease. However, the fact that students will admit to cheating behavior and accept the penalty without a hearing leads to the conclusion that they knew what they were doing was wrong, but they did it anyway because they believed that the end justified the means. Additionally, many of the students found guilty of cheating are either honors or scholarship students who are taking difficult course loads and trying to maintain a high GPA. We now believe that this rise in academic integrity violations may reflect the perception of students who believe that cheating is a time management technique, as opposed to a lack of knowledge of what constitutes cheating. In these situations we feel that the video is effective in convicting the guilty students, but ineffective as a means for deterring these types of students from attempting to cheat again. We believe that continual work is needed to find ways to prevent these types of students from cheating in the future.

A method to combat student cheating, which is currently implemented by faculty, is to limit the opportunities for academic misconduct by tailoring the course requirements. One such example is to deviate from the common paradigm of grading homework by only grading one out of the several problems that were assigned. Furthermore, instead of grading the homework at all give
the students weekly quizzes at the end of lecture to test their knowledge on the homework content as well as the course material. This policy is advantageous because it limits the opportunity for inappropriate aid between students and encourages students to pay more attention during lectures and stay on top of course reading. We believe that there are a few disadvantages to this policy such as how it determinately affects students who suffer from test anxiety and it penalizes students who learn concepts by making mistakes on homework. Nevertheless, this is a good first step on the part of faculty to combat cheating; however, more data is required to determine the correlations between the reductions of instance of cheating versus the impact on overall student learning.

In summary, we produced an instructional video that dramatized acceptable and unacceptable ways to work on homework assignments which we then showed to students in an introductory chemical engineering course. Exposure to the video did not lead to a noticeable reduction in the incidence of cheating; however, it completely eliminated instances of students denying accusations of cheating and going before a judicial review board. Readers who wish a copy of the video should contact Lisa Bullard (lisa_bullard@ncsu.edu).

References


Appendix A. Academic integrity statement in the course syllabus

Students should refer to the University policy on academic integrity found in the Code of Student Conduct (found in Appendix L of the Handbook for Advising and Teaching). It is the instructor’s understanding and expectation that the student’s signature on any test or assignment means that the student contributed to the assignment in question (if a group assignment) and that they
neither gave nor received unauthorized aid (if an individual assignment). Authorized aid on an individual assignment includes discussing the interpretation of the problem statement, sharing ideas or approaches for solving the problem, and explaining concepts involved in the problem. Any other aid would be unauthorized and a violation of the academic integrity policy. This includes referring to homework or exams from previous semesters. (Note that the instructors will provide all students with sample exams from previous years). All cases of academic misconduct will be submitted to the Office of Student Conduct. If you are found guilty of academic misconduct in the course, you will be on academic integrity probation for the remainder of your years at NCSU and may be required to report your violation on future professional school applications. It’s not worth it!