Ten Years in the Trenches: an Updated Suite of Scenario-based Academic Integrity Videos

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Abstract
Faculty at two large public universities have had extensive experience in student academic integrity violations in the introductory material and energy balance class. Scenario-based academic integrity videos developed by the authors ten years ago were effective for a time; however, they did not address changes in technology or on-line resources that have more recently become available and widely used. Moreover, the scenario-based videos were limited in scope to a single course in a single engineering discipline which restricted their overall utility across the curriculum. Recent observations by the authors and input from current undergraduate students identified new scenarios that needed to be addressed, including cheating in laboratory courses, cheating in project-based courses, and cheating on exams. Student Conduct professionals further offered suggestions on the commentary provided by the video's narrator to establish context for the scenarios. This work in progress presents the updated set of videos, which are publicly available, that include examples of both prohibited behavior and encouraged behavior for individual assignments. All scenarios now reference examples in calculus, chemistry, and physics course to make them more widely applicable across a broader range of science and engineering disciplines. The authors offer suggestions on how to utilize the videos along with additional academic integrity-related resources, such as syllabus language, a reflection assignment, an assignment cover sheet, and a form prohibiting sharing course-related documents.

1. Introduction

Academic integrity issues are among the most stressful that faculty face, and the statistics on student cheating rates and attitudes about cheating are troubling [1][2][3]. Addressing academic integrity violations can be time consuming and emotionally stressful. In order to avoid the issue, some faculty (including colleagues at the authors' institutions) have chosen to either eliminate homework or to count it a very small percentage of the course grade. Other faculty avoid confronting students or simply issue vague warnings, thereby implicitly endorsing a culture of cheating. Neither approach creates a healthy learning climate for students and instead sends the message that shortcuts will be tolerated, ironically providing an incentive for otherwise honest students to feel that they have to cheat to compete. Moreover, with the advent of new smart technology, students have an entirely new set of tools to assist them in sharing information during exams, including smart watches and miniature ear pieces to allow for direct communication during exams. In small classes these violations are easier to police, but as enrollment and class sizes grow, it becomes an increasing challenge to monitor this behavior.

In the authors' experience, the best way to address academic integrity is to be clear up front about expectations for individual assignments, lab reports, projects, and exams, providing examples of what behaviors are encouraged and what behaviors constitute a violation of academic integrity. Students may not be aware of the consequences of cheating, so sharing this information ensures that they are fully informed. Ensuring that students know the instructor's expectations and the potential consequences has three potential benefits: (1) students are aware of which resources and behaviors are allowable and which are not; (2) student cheating may decrease because inappropriate behavior and potential consequences are clearly identified; and (3) students who do

commit a violation are more likely to acknowledge that their behavior violated the clearly defined expectations.

2. Lessons learned from the first ten years

In response to two semesters in 2004 and 2005 with multiple cheating cases in the material and energy balances (MEB) course in a chemical engineering department, the authors developed a skit to illustrate expectations around academic integrity. This was effective but limited to a single exposure, and students who missed the class missed the message. Subsequently, the authors took advantage of on-campus video resources within the Communications Department and student actors to convert the skit into a 15-minute video, which has been shown since 2007 in the MEB course at North Carolina State University (NC State) and since 2015 in the MEB course at Louisiana State University (LSU). [4] The video consists of six sections specifically designed for an MEB course, including definitions of cheating, cheating on individual assignments, cheating on computer assignments, and cheating in common study areas.

The videos were successful in educating students about appropriate versus inappropriate behavior. One major finding during the first four years of the video was that students no longer used the excuse of lack of knowledge or lack of expectations as a defense when confronted about the academic integrity violation [4]. Since the premiere of the video, one of the authors at NC State has developed additional resources in the area of academic integrity, including suggested syllabus language, a reflection assignment, discussion prompts for a discussion of ethical behavior, an assignment cover sheet, and a form to prohibit students from sharing copyrighted course content [5]. As a result of these changes to the MEB course at NC State University, the number of cheating incidents has decreased by 50% over pre-intervention numbers, and almost all students who are confronted with evidence of their violation have chosen to accept responsibility without additional hearings being required.

The other author implemented the videos when they started teaching the MEB course at LSU. Prior to the start of the author's teaching the MEB course, students were never assigned graded homework. During the first semester the videos were used along with graded homework assignments, there were 45 instances of academic integrity violations out of 103 students enrolled in the course. Of the 45 instances, most of the violations were for cheating on homework assignments (~80% of violations) while the rest were cheating on exams (~20% of violations), the latter being a new development for the author. Informal interviews with the students mirror initial findings by the authors [4] that students knew they were violating the Code of Student Conduct and just hoped they would not get caught. In subsequent semesters the number of violations at LSU decreased significantly. This could be attributed to the reputation of the instructor for strictness with respect to academic integrity or the students taking the message from the videos more seriously. Nevertheless, the authors determined it was time to update the videos to better address student knowledge and expectations related to academic integrity violations.

3. Developing a video resource for the next ten years

In the ten years since the video premiered, changes in technology and the instructors' experience necessitated an update. Prior to Fall 2008, almost all of the incidents of academic integrity violations were students working together too closely or copying Excel files. Beginning in Fall 2008, an increased percentage of the cases were students who have accessed unauthorized copies

of the solution key on-line and duplicated the solution key for part or all of their solution. The proliferation of "information sharing sites" like www.chegg.com and www.coursehero.com have changed the preferred means of cheating from copying a friend's homework to copying something on-line. In addition, use of cell phones, smart watches, and wireless capability was not common in the mid 2000's. The original videos included a scenario involving a copy machine, which led a student to comment, "What is that? Why don't they just use their phone?"

In an effort to modernize the video, one of the authors assembled a panel of ~30 undergraduate students at LSU ranging from sophomores to seniors and gathered feedback on what worked well in the videos and what needed to be updated. Student feedback was combined with recent observations by the authors to refine and update video content. The authors developed new scenarios, including cheating in laboratory courses, cheating in project-based courses, and cheating on exams. One comment from users of the video was that the script was one-dimensional in nature – meaning that it only really applied to chemical engineering majors and one class in the curriculum. Thus, the authors identified a need to address academic integrity issues more broadly across courses and across disciplines by developing examples rooted in calculus, physics, and chemistry courses, which are pre-requisites for all engineering undergraduates. In response to this, new scenarios were outlined by the authors and then written by undergraduate students at LSU. Examples of some of the scenarios are included in Table 1. The input and design by current undergraduate students helped to ground the message in both examples and language utilized by current students. Student Conduct professionals from both universities further offered suggestions on the commentary provided by the video's narrator to establish context for the scenarios. Responding to student input, several scenarios offer a version of "what to do" to contrast with "what not to do" so that there is an increased focus on appropriate and encouraged use of resources. This also addresses concerns that faculty might have regarding a potentially negative/fearful climate created by the videos that might discourage appropriate student interaction. One message that came about from informal discussions with students is that academic integrity violations often result from procrastination, so this was also specifically addressed in the new suite of videos.

Table 1. Examples of content developed for the new set of videos. The videos consist of six acts, with each act containing 8-15 scenes dealing with issues related to academic integrity and good decision making.

Act	Scene	Content covered
Online Resources	Chegg it out	Example of student using Chegg to copy homework
	The good stuff	Students talking about online video tutorials and other online resources
Peer Resources	Stealth snapping	Taking photos of someone else's work with a phone
	Lead a horse to water	Showing correct and incorrect approaches to helping a classmate
Instructor Resources	Come prepared	Do's and Don't's of how to approach instructors during office hours
	Straight up theft	Stealing/finding solution keys in the professor's office
Computer cheating	Two heads are better than one	Two people working on one spreadsheet for an individual assignment
	House resources	Borrowing code or an Excel spreadsheet from a friend
Reports and projects	Fake it till you make it	Fabricating data for lab classes
	Yoink!	Plagiarizing data/content from a colleague or online resources
Exam	The old switcheroo	Rescheduling exams for a later date to get insight on exam content
	Stealth chat	Communicating during exams on phones or smart devices

The script for the video was written prior to the start of the fall 2017 semester; however, the authors had to find a way to film the videos so that they were of high quality. Fortunately, the College of Engineering (COE) at LSU has a Communication Across the Curriculum (CXC) program which

is housed in a digital media center sponsored by Chevron. This was fortuitous because the authors had access to staff and students with expertise in filming and editing video. The authors collaborated with the staff advisor of the CXC program

Figure 1. Undergraduate students from LSU filming scenes for the new set of videos

and student leaders to organize a film crew of six undergraduate students in the COE. These students then storyboarded every scene and planned out the shots and camera angles that needed to be performed. Next, the authors recruited 25 undergraduate students to serve as actors for the scenes. All 53 scenes were filmed on four consecutive Tuesday evenings in November and December of 2017. The CXC students are currently editing the film to generate the final videos.

Since the video script references calculus, chemistry, and physics, the videos are appropriate for use across STEM disciplines. Faculty may choose to have students watch all the videos or choose specific videos that relate to their specific course. The videos are split up by the different acts, each of which focuses on a specific topic (e.g., cheating on exams). They were designed this way so that faculty could pick and choose which videos to utilize for their courses. We recommend that faculty view the videos to confirm that the expectations set forth are consistent with their own. One message that we convey to students in our own classes is that each class and each faculty member may have different expectations around academic integrity. It is important that students identify and understand the specific academic integrity expectations for each class.

4. Conclusion and Future Work

The updated videos will be made publicly available by the end of the spring 2018 semester via an unsearchable YouTube website. This will ensure that the videos are open source and easily accessible by faculty who want to use them. One of the author's resources [4] can also be used to complement the video, in particular the reflection assignment, which can be modified to fit faculty needs at different institutions. The authors also welcome faculty input regarding the content of the videos and how they choose to use them at their institution. The authors plan to assess student understanding of academic integrity expectations before and after watching the video in order to identify which aspects of academic integrity are perhaps most misunderstood. The authors will also continue to track total numbers of violations and the percentage of students who choose to accept responsibility when confronted with evidence of cheating.

5. References

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