COLLEGE CHEATING – A SIX YEAR FOLLOW-UP

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Abstract

According to various researchers, between 25% up to and in excess of 90% of all college students engage in some form of cheating. Traditionally, cheating includes inappropriate collaborations on a homework assignment, a cheat sheet hidden up a student’s sleeve or more recently on the back of a water bottle label, as well as those wondering eyes during an exam.

While these types of events still occur, recent technology advances have provided even more avenues for unacceptable academic behavior. Devices such as iPods, PDAs, cellular phones, and even some calculators can “instant message” within the classroom. They also store volumes of text and can connect to the internet. In addition, textbook authors and publishers now routinely provide end of chapter answers and exam question pools for instructors which have been illicitly obtained by students. In some cases, a naive educator will make it even easier for students to cheat by posting these items on an open website for the entire world to see. Given the extraordinary efforts that students will go to cheat and remain undetected, educators can become very frustrated.

This paper describes the actions one Engineering Professor has been taking in his classes to minimize the amount of cheating. The results of a 2011 engineering student survey by the author on cheating are reviewed and compared with the same survey completed 6 years earlier. Students were asked if they knew someone who cheated, if they themselves cheated, and the reasons why. Previous works by other educators along with preventative measures as well as few actual cases are also described.

Previous Work and Events

There are a number of studies on “academic misconduct” particularly in the last 50 years. Most of the data is in the form of surveys and all of them confirm that cheating is not a rare event. Along with this, there are also reports and articles about wide spread cheating events that are also
of interest. The following is a summary of some of the more significant surveys and articles that with which this author identifies.

One study\textsuperscript{[1]} at Midwestern State University, which was conducted in 1984, 1994, and 2004, found the following:

<table>
<thead>
<tr>
<th>Type of Cheating</th>
<th>1984</th>
<th>1994</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheated on Exams</td>
<td>23.7%</td>
<td>23.1%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Cheated on Quiz’s</td>
<td>22.1%</td>
<td>31.3%</td>
<td>31.0%</td>
</tr>
<tr>
<td>Cheated on Assignments</td>
<td>34.2%</td>
<td>45.1%</td>
<td>41.6%</td>
</tr>
<tr>
<td>Overall Cheating</td>
<td>54.1%</td>
<td>61.2%</td>
<td>57.4%</td>
</tr>
</tbody>
</table>

In another survey\textsuperscript{[2]} which focused on both traditional and internet cheaters, 68.4\% of the students reported cheating using both means. 87.9\% reported using only traditional means and 12.1\% reported use of the internet to cheat. The survey also reported that most traditional cheaters were women (65.2\%) but men led the way in internet cheating (54.1\%).

In the Fall Semester of 2010, Professor Richard Quinn of the University of Central Florida discovered that over one third of his students had cheated on his midterm after he did a statistical analysis on the results.\textsuperscript{[3]} Shortly after that, more than 200 students came forward and admitted they were involved. Everyone had to take it again. The guilty students had obtained the textbook’s test bank which was used to create the original exam.

The following were also included in the 2005 report\textsuperscript{[4]} but are repeated here because of their significance.

Professor Donald M. McCabe at Rutgers University, who is the founder of the “Center for Academic Integrity” at Duke University, 1993 survey reports that:\textsuperscript{[5][6]} 87\% of students admitted to cheating on at least one written work, 70\% of students reported cheating on at least one test, and 52\% had copied from someone.

J.S. Baird’s 1980 paper\textsuperscript{[7]} reports that about 75\% of those surveyed had cheated in college.

Other surveys\textsuperscript{[8]} conducted between 1964 and 2001 show a variation between 40\% and 96\% of students cheated with an average of around 73\%. In addition, this same report confirms that technology has also made cheating easier.

In a 2004 ASEE PRISM Article,\textsuperscript{[9]} it stated that in 1964, 58\% of engineering students said they had cheated at least once. In 1996, the number had jumped to 82\%, a 41\% increase, at George Washington University, the engineering school had 21\% of the cases, and at Georgia Tech, the college of engineering had 37\% of the cases.

**Merrimack College Survey**
Merrimack College is an undergraduate only Catholic College located about 30 miles north of Boston Massachusetts. It has approximately 185 Electrical and Civil Engineering and Computer Science majors in a total population of approximately 2,000 students. This has the advantage over larger institutions in that each professor can get to know every student very well over the 4 - 5 years that they attend.

Two surveys were conducted at Merrimack College in early 2005 and early 2011. The focus of both surveys was to determine if the engineering / computer science students had cheated and if so, on what. In 2011, all Civil Engineering, Electrical Engineering, and Computer Science Students were individually invited via email to participate. Others who were not specifically invited but found out about the survey were also allowed to take the survey. Out of the three primary majors, 58 responded to the survey and an additional 23 students in other majors also responded. A fairly even number of freshmen through seniors responded to the survey with over 90% in Science or Engineering. Approximately 96% of those who responded are full time students. The age of those who responded varies from 16 to 60 with nearly 78% between 16 and 24. Nearly 7% preferred not to answer that question. The EE, CS, and CE results are shown individually, along with all combined results. Civil Engineering was included for the first time in 2011.

All responses were collected with the use of an external online survey instrument. The majority of the questions required only a Yes / No response. An example is “Have you ever cheated on an exam or test at Merrimack College? Yes or No.” A few questions were open ended such as “What would be a reason(s) someone would cheat at Merrimack College?” Students also had the option to skip any question if they choose. Additional demographics were also asked including their major, class, full or part time, and age.

While in high school, 77.2% in the 2011 survey and 91.8% in the 2005 survey said they knew of other students who definitely cheated on homework or projects. When asked the same question about exams, the 2011 survey and 2005 survey answers were yes for 80.2% and 91.8% respectively. The same questions were then asked about college and the answers for the 2011 / 2005 surveys were 46.2% / 82.2% for homework/projects and 51.3% / 80.6% for exams which show a noticeable drop from 2005.

The students were then asked if they ever cheated in high school and college and the percentage that responded yes are shown in Tables 2 and 3.

<table>
<thead>
<tr>
<th></th>
<th>In High School</th>
<th>In College</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EE</td>
<td>CS</td>
</tr>
<tr>
<td>Cheated on Homework</td>
<td>44%</td>
<td>59%</td>
</tr>
<tr>
<td>Cheated on an Exam</td>
<td>39%</td>
<td>29%</td>
</tr>
</tbody>
</table>

Table 2 – 2011 Survey Results (% Yes)
### Table 3 – 2005 Survey Results (% Yes)

<table>
<thead>
<tr>
<th></th>
<th>In High School</th>
<th>In College</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EE</td>
<td>CS</td>
</tr>
<tr>
<td>Cheated on Homework</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>57%</td>
<td>66%</td>
</tr>
<tr>
<td>Cheated on an Exam</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>

While the numbers vary by both discipline and the year of the survey, the data shows that cheating has dropped in college over the last 6 years. For example: the results for cheating on homework has dropped by approximately 40% overall from 2005 to 2011. Both EE and CS have dropped by approximately 10% and 52% respectively. If CE is ignored, on exams cheating has dropped nearly 64% overall and for EE and CS the drop is 83% and 100% respectively. While these numbers are extremely encouraging, the problem has not gone away.

### Why do students cheat?

From the two surveys, those who admitted to cheating also stated why they cheated and the top answers were nearly identical for both. They are:

- Lazy
- Will Fail without cheating,
- Not enough time,
- Too much stress (scholarship, parents, etc),
- Too hard,
- Easy to cheat,

These responses are similar to those found in the 2003 Sheard Survey[^10] which are: not enough time, will fail otherwise, too great a workload, assignments are too hard, and afraid of failing.

### Preventative Measures

There are many techniques to prevent cheating but the #1 solution is not to ignore it. Some of the specific techniques used by this author are described below and were included in both surveys. The majority of the students strongly stated that each of these will deter them from cheating. However, no answer received a 100% rating in either survey. They are in order of perceived effectiveness.

1. Walk around during all exams. This alerts all students that they are being monitored and is particularly effective with “cheat sheets” and “wondering eyes”.

[^10]: Sheard Survey
2. Inspect all materials that can be used during the exam just before it starts. This includes beverage bottles, hats, and hoods.

3. Electronic copies of all lab write-ups and software are turned in along with printed copies for every assignment. This is an easy way to electronically check for plagiarism now and in the future. This works quite well even if you don’t do the checking because the students don’t really know when you will check.

4. Confront the student(s) when there is a problem. This is one of the most important actions a teacher can do but is also the most difficult. When a student knows that an instructor does not tolerate such behavior, it is the author’s opinion that the frequency of cheating will likely drop in that instructor’s classes. One website [11] is occasionally used by some students to rate their professors. While this author does not have any respect for the overall results, there is one comment that he particularly cherishes from one student: “..., and definitely DON’T CHEAT!!” (2/12/04).

5. Present a “Cheating Class Policy” on the first day of class. This defines cheating and the consequences if caught.

The following were not included in the survey but are additional techniques also used by the author and others. [12]

6. Never reuse an old test because they never die and are easy to come by. One student commented in the 2005 survey: “I believe in 2 [out of] 4 classes I can cheat without a problem. So teachers do not really change the tests from previous years. So you can get an old test and you basically are golden.” On one occasion the author wanted to verify that this is still true and gave an exam using the first half of an exam from the previous year and changed the second half. One student scored exactly a 50 getting only the first half correct.

7. Never post homework or exams answers on a public website for anyone to see. On one occasion, this author used some end of chapter questions for homework and one student turned in a word for word copy directly from the textbook’s answer key. Once confronted the student provided the website where either a naive or lazy professor posted scanned copies from the instructor’s manual for every question for the world to see. Once that was out, nobody could use the questions from that textbook for a graded assignment ever again. [13]

8. No one is allowed to go to the bathroom during an exam. They are warned to go just before the exam starts. This prevents the book or notes behind a toilet problem which has happened in one of the author’s departments.

9. Only simple calculators, such as the TI-36x, are allowed during an exam. These provide all standard scientific functions but no memory or messaging. Some more powerful calculators such as some of the TI-80 through TI-99 models have the ability to “instant message” within a room [14] and most have non-volatile memory which is great for equations. In the 2005 survey, one student commented that: “Calculator programming is the number one cheating method in all majors in all courses.”

10. Create two versions of a test and check that they are alternated between students who sit beside each other. This is very effective for true / false and multiple choice exams.
Actual Cases

The following are two recent cases of cheating experienced by this author.

- A special needs student was allowed to take all exams with a proctor in the library study hall. The student took advantage of the situation and used additional equipment that was explicitly prohibited on the exam. However, the proctor knew this from the exam sheet rules from the professor. The proctor reported it to the professor and the student received a “0” for the exam. The student was reported to the chair and dean of the department. It was later discovered that the student had also been caught cheating during the previous semester in a different department under the same conditions.

- Another student was caught cheating on an exam with the author’s PowerPoint slides on his lap, and on the desk behind him. The student received a “0” on the exam and was reported to the department chair and dean. The student admitted wrong doing but later dropped the class which would have allowed him to graduate. He has since transferred to another school even though he would be allowed to take the class again and graduate.

Conclusion

Simply put, the 2011 data confirmed that the same problems that were found in 2005 are still prevalent today although to a much lesser degree. This is very encouraging because it shows at least, some of the techniques maybe effective. However, to deal with cheating effectively, the educator must ensure the following.

First, the administration must have a written policy and process in place. The policy at Merrimack College has improved significantly in the last several years and is currently going through another review in 2011. It now specifies what cheating is and the process to follow when there is an incident. In addition, it is also important to have clear communication across divisions of a school in case the student cheats in different areas of the college or university.

Secondly and equally important, the professor must be very proactive in deterring cheating by both putting preventative measures in place and then acting quickly when a violation occurs. This is the only way to give fair treatment for everyone in the classroom especially the honest students.

If these reasons don’t motivate the educator, then these quotes from the surveys might.

“if you are smart there is always a way to cheat.” <2005>

“...when I've considered cheating it was more of ‘can I get away with it or not’ that prevented me from doing it not the question of it being ethically wrong.” <2011>

Bibliography

Proceedings of the 2011 ASEE Northeast Section Annual Conference
University of Hartford
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[8] Dick, Martin; Sheard, Judy; Bareiss, Cathy; Carter, Janet; Joyce, Donald; Harding, Trevor; and Laxer, Cary; “Addressing Student Cheating: Definitions and Solutions,” Table 1, ACM SIGCSE Bulletin, 35(2):172-184, June (2003).
[10] Sheard, Judy; Carbone, Angela; Dick, Martin; “Determination of Factors which Impact on IT Students’ Propensity to Cheat,” Australian Computer Society, Inc; Australasian Computer Education Conference (ACE2003).
[14] Based on a talk given by Dr. Jeffrey Popyack and Dr. Nira Herrmann given at the CCSC-E conference October, 2003.