Strategies for Student Integrity

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Abstract:

Factors that promote or discourage student integrity are investigated. Some factors promoting cheating are personal to the student, but instructors have control over many factors related to their courses. Several course, program and institutional strategies are evaluated. Criteria for evaluation include whether the strategy improves learning, reduces student stress, and promotes honesty. Alternatives for honor codes are discussed. Effective strategies are likely to be those that promote student self-image, improve student skill, and reduce pressure to perform. This analysis focuses more on engineering-type assignments such as homework problems than on essay assignments more likely discussed elsewhere.

Introduction:

It is often taken for granted by instructors that academic integrity is paramount to students. However, among students there are varying attitudes on this topic. In institutions with many international students, cultural differences can be a big factor in whether students share work. Therefore, the assumption that integrity matters to students should first be supported.

Integrity is strict adherence to a moral code, but it doesn't imply what the code should consist of. Each culture develops its own values based on what is important to the growth and survival of its people. In China, Confucianism is the underlying way of thought. The primary doctrine is that a person's goal should be unity with family and society.[1] Society is placed before self. In many other Asian cultures similar ways of thought exist.

One result is that students in Asia are often encouraged to work together on assignments. Often, exams can be completed in teams because the result of the group is valued more than the result of the individual. Integrity is measured by a student's contribution to the success of the group.

However, in Western educational institutions, integrity is measured by individual achievement. Working together is often considered cheating. This fits the ideal of individualism prevalent in Western societies. These concepts were developed during the Industrial Revolution because that way of thinking had advantages in the new economy. The nature of work in Western economies is that each worker is responsible for his or her own individual contribution. Then employees are compensated and promoted based on their achievements. Teamwork is not totally neglected in

Western societies, and has a place in certain circumstances. On teams, common goals may be achieved through segmenting teams into roles through which each person has his or her own responsibilities.[2]

Therefore, integrity in Western institutions is a way of guaranteeing to a potential employer that the graduate has personally obtained the outcomes specified by the educational program. In Eastern institutions, graduation means that a student is a team player and can support a potential employer's success as a whole. The Western definition of educational integrity is used through the rest of this paper.

Factors in integrity violations:

It is likely that most students intend to be honest. They do not go to college with the intention of copying or cheating their way through their education. However, many factors can make them more or less likely to cheat.

One factor in whether a student decides to copy work is if he is native to Asia. As discussed above, cultural difference can cause misunderstandings about the expectations of an assignment. However, cultural training is not the focus of this paper.

Factors in whether a student decides to cheat may be related to the pressures of the course or of the student's personal life, the student's self-image, and institution's policies and culture. It is important to understand these factors in order to promote student success.

Student identity:

Older models of dishonesty neglect the influence identity has on behavior. Those models state that a person will be dishonest if the probability of payback is high relative to the risk.[3,4] This disregards the influence of personality because it is a simple tradeoff calculation.

More recently, models of dishonesty consider psychological issues of societal norms and personal identity. For example, people will behave according to societal norms.[5] Moreover, people feel an internal reward when they behave according to norms.[6]

A person's identity is based on how they view themselves.[7] People believe strongly in their identity and will act in ways that will preserve this.[8] This means that if people view themselves as honest, then they will avoid being dishonest. To be dishonest requires them to adjust their identity. It is assumed here that most students want to view themselves as honest, partly because it is a societal norm.

One way that a person can cheat but still maintain a positive self-image is through rationalization. This is where a person creates reasons to explain their actions which otherwise

might violate their self-image.[9] Many examples of pressures on students will be discussed. These pressures provide motives for rationalization. A connection between rationalization and social norms is that if people believe others in their peer group are disobeying requirements then are likely to do the same.[10]

Pressures:

College coursework can be stressful. A survey of college undergraduates showed that 15.6% were currently suffering from an anxiety disorder or depression.[11] Most students feel stressed every day. The impact on students can be seen in retention rates for college freshmen that are around 70%.[12]

Students are under a lot of pressure to succeed. This pressure might be caused by the demands of their course load. These pressures may be the reason some students turn to cheating. However, instructors have control over course-related factors that cause stress and can adjust their courses to minimize cheating as discussed below.

The factors that are personal to the student can be addressed in many ways including through the institution's counseling or health office, or through other programs such as leadership development. A few of the factors in a student's life that can be stressful are: balancing studies with the need to earn an income to support themselves, caring for family members, securing stable housing, transportation to and from classes, personal health issues, and managing newfound independence.

Related to the program of study, some pursuits are more intensive than others. Engineering education is more demanding than many other courses of study. For example, some accelerated programs in engineering and the medical sciences might have minimum grade point average requirements for students to remain in a given program. As a result, a student's life plan might be at stake if he or she were to earn a low course grade. Finally, the program of study might not be well-planned which leads to students not having the skills necessary to succeed in the subsequent courses.

The course-related issues show how greatly teaching style can influence student stress. There are a wide range of teaching styles, and they are each appropriate under different circumstances. However, some of methods can cause more stress for students than others. A question arises as to whether the stress-inducing methods are necessary for the course, or simply a result of the instructor's style.

Some course and instructor related issues are: First, the instructor may not be informed about students' previous exposure to given material. Second, the instructor may not be very skilled in delivering instruction. Third, there might be few opportunities for students to get help in a

course outside of class time. Fourth, large assignments or projects might be due for many courses all at once. Fifth, when there is no chance to revise submissions that have errors, then submitting the work can produce anxiety. Sixth, exams are very high stakes, and some courses might assign grades based largely on exam scores.

These program and course related pressures are may lead students to rationalize cheating. The student could blame the instructor for unreasonable stress and see cheating as the proper response.

Criteria for selection of remedies:

Different measures could be tracked for success. One simple measure could be that the number of integrity violations drops or goes to zero. This could be tracked in courses, programs or institutions. Although integrity is the focus of this paper, it might be more meaningful to focus on more important measures. For example, if integrity has the purpose in Western society of making sure that each student learned the material, then an assessment of learning might be a more relevant indicator of success. Another possible indicator would be stress levels in students. As discussed above, when the students are stressed, that can encourage cheating instead of learning.

Objectives need to be prioritized. It isn't possible or necessary to extensively focus on reducing stress, improving learning and enforcing integrity. Those factors relate to each other. Therefore, if one factor is improved upon then other factors become less of a problem. Focusing on integrity means that time is taken away from instruction, or from the instructor's time to do other things such as planning and grading. Additionally, talking too much about integrity issues can increase the stress levels in some students. Each suggestion discussed will be weighed against how well it meets the three main criteria of stress, learning and integrity.

Strategies:

First, general strategies will be discussed related to stress reduction. Second, specific class room practices will be evaluated.

Stress can improve performance, so stress itself is not always negative. However, considering the default stress level that most people are at, increasing stress only reduces performance. Many experiments have been performed to determine the optimum level of stress and the results show no clear pattern except a consensus that stress can easily get too high.[13]

Stress reduction strategies can vary from changing how courses are taught to referring students for personal counseling. Personal counseling is out of the scope of this paper since it focuses on

practices not commonly done by engineering educators such as dealing with grief, development of emotional skills or stress reduction skills such as meditation.[14]

Although engineering faculty members are unlikely to be involved in personal counseling, there are strategies that they can implement that can foster a student's growth. First, having a positive attitude and encouraging the students may make students more optimistic that they can do the work required. A positive attitude toward the students might make them more open to trying new things.[15] However, a positive attitude should not be imposing or overdone or it could have the opposite effect.[16]

Second, engineering instructors promote emotional development in their students when they get to know their students. There is a large power distance between professors and students. This may intimidate students and prevent them from asking questions. However, instructors who choose to become more familiar with students reduce the power distance and promote pro-social behaviors. Conversely, using coercive power in the classroom leads to antisocial behaviors in students.[17] Promoting discussion is one way to increase interaction. Rather than asking if there are any questions, instructors can ask students to discuss a few specific issues in small groups then elicit responses from the group as a whole. This strategy places value in student voice and increases student engagement.

Third, building confidence in students can be done by helping them succeed in small steps. The challenge is knowing the exact capabilities of each student. However, this information allows instructors to differentiate based on ability.[18]

Fourth, time management is a useful tool to help students keep track of expectations for their courses and life responsibilities. It is possible to introduce time management strategies in professional issue courses.

Specific Strategies:

Classroom strategies may be successful at reducing stress, helping students learn, and promoting integrity. The specific strategies will be rated at how they each perform on these measures. For example, classroom discussion was listed above as a stress reducing technique. Some students might feel uncomfortable being put on the spot, but this is less likely in a welcoming classroom. Generally, discussion reduces stress because it promotes interaction between students and instructors. This can also aid learning because student misunderstandings can be brought to light.[19] It engages students in their learning. Despite that this strategy does not directly reduce cheating, it could have in indirect effect because of the relationship between stress and cheating. Moreover, the students could be less prone to cheat when they feel more connected to the person they are offending.

Exams are the standard means of assessment in college level engineering classes. Exams are among the hardest portion of a course to cheat on because they are monitored and time-limited. That is one of the primary reasons that instructors use exams to measure student mastery. Another reason might be the instructor feels exams are easier to grade than other types of work. Exams do not reduce stress, but probably are among the most stress-inducing forms of assessment. One reason for this is that students have only one attempt. Exams can be made less stressful if students are given unlimited attempts. However, making and offering unlimited versions of exams can be very time intensive for the instructor.[20] Exams might be learning experiences, but the short time puts a limit on how much can be learned during the exam. Studying for the exam is a learning experience, but most student cram for their tests and that means that their learning is temporary.[21] Students may learn more through open book tests.[22] This could partly be because they will cram less for exams that require less memorization. Offering unlimited retakes of versions of exams has the advantage that students focus their learning on topics that they have weak understanding in until they have mastered them.[20]

A number of strategies can be used to make homework assignments and projects unique for each student. For example, team projects are usually typical of this in that each student will have their own responsibility on the assignment, so there is no one that they can copy their work from. Homework problems can also be made unique by assigning a slightly different set of given conditions to each student using a random number generator. However, this becomes more difficult to grade since answers between students can't be directly compared while grading. Possibly, the instructor or grader could make a spreadsheet of automatically generated answers based on each set of givens. It may seem like an artificial creation by the faculty member, but it is less so if each student's work is called part of a class-wide team project. Assigning unique givens does not prevent copying because students may still work together or follow along with someone else's work while substituting their own givens. However, that is not much different than other homework where they follow along with the instructor's or the text's examples. Therefore, this concern is only valid if the problems are intended to be significantly different than what was illustrated. The value of this method is that it forces students to do their own work. That is an improvement in integrity and learning. Yet, compared to cheating, it might be slightly more stressful because students have to put in more effort to actually do the work.

Having parts of projects or large assignments due in stages has advantages. Students might be allowed to revise work on the initial submission if there are errors. This makes them redo the work and try again to learn the material. Also, students may be less stressed because they know that they will have a chance to fix errors. However, the only possible effect on integrity is secondary. There may be less pressure to cheat since the process reduces stress and improves learning.

Required reading is difficult for an instructor to validate. An unpublished poll of students showed that none did optional homework problems or reading assignments. They would do the reading sometimes when quizzed on it. However, random quizzes induce more stress. Another way to get students to read is to require submissions of their reading. For example, the author has students paste text from an online book into a word file, mark it up as they read it, and then write a summary. Students are told precisely what criteria are used to grade the assignments so they know exactly what they need to do to get full credit on the reading. Each student will have unique comments in their marked up file. Therefore, this is low pressure, high learning, and is never copied from other students.

There are also ways that courses can be made to have realistic expectations from students. This does not necessarily mean the course will have reduced expectations, but that is one possibility. If a course is too demanding, and if the work requirements are not essential to the program viability then requirements may be reduced. However, reducing requirements can decrease student learning. If expectations are lower, students may learn less. Another way to make expectations more realistic is to have students make their own learning plan with guidelines as to how that will correspond to a final grade.[20] For example, in some courses, learning builds upon itself throughout the semester. Some material is much more important than other material. It may be worth passing a student who can master at least the essential concepts but that doesn't know the advanced topics. Gradations of learning between those extremes could correspond to a wide range of grades. This can promote learning because students focus on the material they need to know to reach their goal grade. It can be less stressful as long as the students don't set too high of a goal for themselves.

Honor Codes:

Honor codes are a strategy that is focused on integrity. Honor codes are not directly about student stress levels or student learning, but those are secondary to the codes. The honor codes are primarily about coercing students to show integrity. Honor codes might increase learning if they successfully limit copying, and if students respond by putting more time into their studies. There are no guarantees that either will occur because students react differently to coercion. As cited above, using coercive power is often counterproductive. A specific example of how this can occur is that honor codes might increase the stress level. This is because honor codes are normally written in a negative tone. They are lists of prevented behaviors. Therefore, through displacement, transference or shooting the messenger, the instructor or institution might become subject of student anger.[23] Therefore, it is possible that an honor code could have the opposite effect of what was intended. However , an honor code that is written as a set of positive expectations loses its negative stress, but still does not directly improve pressure on students or improve their learning. It might also become less effective because honor codes might only be effective when they induce worry in students. If writing it in a positive tone has any effect, it is

because students may be looking for guidance about proper behavior. It is a list of expected behaviors rather than a list of transgressions. If it is affirmative, it is possible that an honor code could inspire a new culture at an institution by creating positive social norms.

An experiment was conducted related to honor codes. This was an approved psychological experiment by the author's University Institutional Review Board. (Approval number 1819-22.) The purpose of the experiment was to see if a harshly worded honor code influenced student confidence. The method was to give two different versions randomly to each half of the class. One version, the harsh code, said "The following activities can result in letters in your permanent record and expulsion from the University" and gave several examples of behaviors such as "Not citing all of your references in a submission." The second version was a positively worded list of expectations. It said "Guidelines for student growth" and gave positive examples of behaviors such as "It shows respect to previous researchers to cite every idea that you get from them." Both codes addressed the same issues, but were worded in different tones. Each questionnaire asked the student how confident they were, the grade they expected in the course, and whether they thought the honor code was helpful.

The experiment was performed on 23 students. The result was that there was no significant relationship between student confidence and the version of the honor code they received. It is possible that for a larger sample, the results might become significant.

There was a significant relationship found between student confidence and whether they thought the honor code should be implemented, regardless of which version. Students why had confidence of 5 out of 5 had wanted the policy implemented at 4.25 out of 5, but other students wanted the policy implemented at 3.46 out of 5. The p-value was 0.075 which shows acceptance of the relationship at better than 10% confidence. Confident students, regardless of what grade they expected in the course, thought the honor code should be implemented. This could be interpreted to mean that less confident students didn't want another restriction to worry about. No written response was requested, but one student wrote comments on the form, which for them was the harshly worded one. Near the restrictions on copying from fellow students, this participant wrote "Sometimes the only resource available for questions is a friend." Additionally, they scratched out several lines from the code and gave the lowest rating to whether the honor code should be implemented. However, the student claimed to have the highest level of confidence in their success and high grade expectation. Therefore, even though the statistical weight of the analysis is not strong, there were individual students who felt strongly that a harsh honor code was a bad idea. Also, less confident students didn't want another restriction on their behavior regardless of whether it was encouraging.

Summary

Each strategy for limiting student cheating is based on assumptions that educators have about students. If students are seen as looking for ways to cheat, then faculty members might be more hostile to them. However, if we see students as trying to find ways to succeed, and that they prefer to follow expectations, then we are more likely to find solutions that fit our course design. This sort of assumption might come down to the instructor's philosophy of education, so may be very difficult to change.

If cheating has become the norm at an institution, then it would take more effort to change it. However, instructors can influence the norm in their own courses because expectations vary between courses or even different sections of a course. Norms depend upon context. It is up to the instructor to set the norms for their courses.

Improving integrity is partly about personal development of the students. Even developing a relationship between the instructor and student can change the dynamics and make students less likely to cheat.

Since the primary goal of educational institutions is learning, then learning might be the most worthwhile metric of integrity. The rationale is that students that learned the material must have done more than simply copy the work from someone else. Several strategies related to integrity were rated. There may be a time and purpose for each. However, strategies that give students chances to revise work reduce pressure and let them learn in steps. Honor codes do not directly improve learning but were shown to increase worry in less confident students.

References

1. Hall, David L., and Roger T. Ames. *Thinking through Confucius*. Suny Press, 1987.
2. Hoback, Alan S., Teamwork through role playing, ASEE-NCS, Ohio Northern University, April 7-8, 2005.
3. Allingham, Michael G., and Agnar Sandmo. "Income tax evasion: A." (1972): 359-74.
4. Becker, Gary S. "Crime and punishment: An economic approach." *The economic dimensions of crime*. Palgrave Macmillan, London, 1968. 13-68.
5. Campbell, Ernest Q. "The internalization of moral norms." *Sociometry* (1964): 391-412.
6. De Quervain, Dominique JF, et al. "The neural basis of altruistic punishment." *Science* 305.5688 (2004): 1254.
7. Bem, Daryl J. "Self-perception theory1." *Advances in experimental social psychology*. Vol. 6. Academic Press, 1972. 1-62.
8. Greenwald, Anthony G. "The totalitarian ego: Fabrication and revision of personal history." *American psychologist* 35.7 (1980): 603.
9. Tsang, Jo-Ann. "Moral rationalization and the integration of situational factors and psychological processes in immoral behavior." *Review of General Psychology* 6.1 (2002): 25.

10. Møller, Mette, and Sonja Haustein. "Peer influence on speeding behaviour among male drivers aged 18 and 28." *Accident Analysis & Prevention* 64 (2014): 92-99.
11. Eisenberg, Daniel, et al. "Prevalence and correlates of depression, anxiety, and suicidality among university students." *American Journal of Orthopsychiatry* 77.4 (2007): 534-542.
12. *ACT, "2006 Retention/Completion Summary Tables" (PDF). 2006. Archived from the original (PDF) on 26 September 2006.*
13. Muse, Lori A., Stanley G. Harris, and Hubert S. Feild. "Has the inverted-U theory of stress and job performance had a fair test?." *Human Performance* 16.4 (2003): 349-364.
14. Felham, Colin, *The SAGE handbook of counselling and psychotherapy* (2006): p. 10.
15. Lyubomirsky, Sonja, Laura King, and Ed Diener. "The benefits of frequent positive affect: Does happiness lead to success?." *Psychological bulletin* 131.6 (2005): 803.
16. Held, Barbara S. "The tyranny of the positive attitude in America: Observation and speculation." *Journal of clinical psychology* 58.9 (2002): 965-991.
17. Golish, Tamara D., and Loreen N. Olson. "Students' use of power in the classroom: An investigation of student power, teacher power, and teacher immediacy." *Communication Quarterly* 48.3 (2000): 293-310.
18. Csikszentmihalyi, Mihaly. "Flow and the psychology of discovery and invention." *HarperPerennial, New York* 39 (1997).
19. Walker, Stacy E. "Active learning strategies to promote critical thinking." *Journal of athletic training* 38.3 (2003): 263.
20. Hoback, Alan S., "Proficiency Approach to Self-Paced Structures Course," *Proceedings of the Spring 2008 American Society of Engineering Education North Central Section Conference,* Wright State University, March 28-29, 2008.
21. McIntyre, Shelby H., and J. Michael Munson. "Exploring cramming: Student behaviors, beliefs, and learning retention in the principles of marketing course." *Journal of Marketing Education* 30.3 (2008): 226-243.
22. Williams, Jeremy B., and Amy Wong. "The efficacy of final examinations: A comparative study of closed-book, invigilated exams and open-book, open-web exams." *British Journal of Educational Technology* 40.2 (2009): 227-236.
23. Buss, Arnold H. *The psychology of aggression*. Wiley, 1961.