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Promoting academic integrity at a Midwestern University: Critical review and current challenges

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Abstract

This article reports on an institutional study of academic integrity based on two different sources: reporting of incidents over a six-year period (2001-2006) and a campus-wide survey administered in 2008. Findings are that academic dishonesty is widespread and increasing, yet 40% of the academic staff responding admitted they had taken no steps regarding a suspected incident of cheating due to insufficient proof. Among college students, freshmen and sophomores are more frequently reported for cheating than juniors and seniors, and international students are overrepresented compared with domestic students. The proportion of integrity charges against females was less than their proportion of student enrollment, and there exists a perception gap between students and academic staff in the seriousness of a number of actions. The most frequent offence was students working with peers when asked for individual work. This may be indicative of a change of the value systems of young people compared to older generations, and former strategies to promote integrity may be less valid today. More emphasis needs to be put on structural approaches to reduce or eliminate opportunities to cheat, and the educational aspect of dishonest actions should be further strengthened.

Introduction

This study aims to examine the nature and prevalence of integrity violations and present approaches that might reduce or eliminate opportunities to cheat. The study is based on data from two distinctly different sources: a longitudinal study of incident reports over a six-year period (2001-2006) and a campus-wide survey administered in January 2008. Reporting of incidents to the institution's judicial office is a well-established routine that initially served administrative and statistical purposes, but was later to become a valuable source for this study. The purpose of the campus-wide survey was originally to provide additional data to back up emerging institutional strategies to promote academic integrity. Unaware of this, the first author simply advertised for institutions to volunteer in a study of academic integrity on a listserv reaching more than 200 universities and colleges in the United States. The Subject University attracted interest due to its size, academic profile, administrative support and explicit desire to investigate the state of academic integrity.

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While reported incidents were filed according to predefined categories, the campus-wide survey focused on perceptions of information strategies, severity of penalties and questions on specific behaviours that might be considered dishonest. These data are therefore subjective, but still illustrate differences in opinion of undergraduate and graduate students, and between academic staff and respondents in the student sample.

The university is a four-year doctoral-granting institution. The college of engineering is the largest of five schools, currently in excess of 3,700 students enrolled. The university also holds a college of sciences and arts, and schools of business, technology, and forest resources/environmental science. Enrollment has been fairly stable in the timeframe of this study (2001-2006), ranging from a minimum in 2001 (6,295) to a maximum in 2002 (6,460). The share of female students has decreased from 26.2% in 2001 to 23.2% in 2006. Average international student enrollment was 9.8%, with a maximum in 2003 (10.5%) and a low in 2006 (9.2%). Gender distribution of this group is similar to that of domestic students, ranging from 25.5% in 2001 to 23.4% in 2003.

In this study, we investigate academic standing, school and class affiliation, academic achievement and demographic characteristics, such as gender and ethnicity at the Subject University. Research questions in Part I attempt to explore the nature and prevalence of dishonesty to ease the implementation of specific measures to promote ethical standards at the university. Part II of the study reports on beliefs and perceptions of students and academic staff, e.g., of the severity of a range of actions, and the extent to which certain offences are viewed as a serious problem. Our data offer opportunities to compare and estimate the scope of the challenge, as seen in Part III of the article.

The research questions are as follows:

Part I: What are the nature and frequency of reported integrity violations? How do reported incidents of dishonesty relate to level of study? Is cheating higher among certain demographic groups? What schools have the highest rates of cheating?

Part II: To what extent are policies of academic integrity discussed in classes? To what extent do students and academic staff agree on the severity and frequency of dishonest behaviours? What safeguards are suggested in the disciplines?

Part III: How can honesty effectively be promoted at the Subject University?

Literature review

Academic dishonesty is a continual challenge on university campuses in North America and beyond. Already in 1990, the American Council on Higher Education reported that cheating was on the rise (Nowell & Laufer, 1997), and later studies have confirmed this trend (Baker, Berry, & Thornton, 2008). Research on college student attitudes about academic integrity indicates that rule-breaking behaviour (whether intentional or negligent) is pervasive, and trends at secondary schools are discouraging (McCabe, Trevino, & Butterfield 2002; Pavela, 1997). National surveys confirm that more than half of college students in the United States have engaged in some kind of academic dishonesty, at least once (see Rawwas, Al-Khatib, & Vitell, 2004). Bowers (1964) found that at least half of 5,000 surveyed American students had engaged in fraudulent actions. A 1990s follow-up study of students that had been included in Bowers' study showed that incidents of copying from another student on tests increased from 26% to 52%, and the use of crib notes increased from 6% to 27% (McCabe & Trevino, 2002).

"Academic integrity" deals specifically with ethical norms and practices of universities and colleges. The *Oxford English Dictionary* defines "integrity" as "soundness of moral principle; the character of uncorrupted virtue, esp. in relation to truth and fair dealing; uprightness, honesty, sincerity" (Oxford English Dictionary Online, 2008). In an ethically sound environment, students can be trusted to complete their work without making attempts to gain unfair advantage over peers (Gallant, 2007). There is no exhaustive list of fraudulent behaviours available, but examples may include cheating, fabrication, facilitating academic dishonesty and plagiarism (Pavela, 1997, pp. 104-105).

The Subject University has schools of business and engineering that, according to previous research, enroll students who are among the most likely to cheat in college. In a survey of students at 31 colleges in the United States, 87% of students in business majors reported academic integrity violations (Callahan, Dworkin, & von Dran, 2008). This study further revealed that students planning business careers were more likely to engage in dishonesty than any other occupational category. In another study, business students were proven to be more frequent cheaters compared to students in engineering, science, and the humanities (Caruana, Ramaseshan, & Ewing, 2000). Also engineering undergraduates rank high in engaging in integrity violations. Meade (1992) reported that 74% of engineering students admitted to engaging in dishonesty, only superseded by undergraduate business students (87%). Although we do not know for sure the causes of this, students have rationalised their conduct by reference to time pressures and competition (Callahan et al., 2008).

Demographic variables may also have an impact on engagement in integrity violations. Male students have been found to cheat more than females (Bowers 1964, McCabe & Trevino, 1997; Kisamore, Stone, & Javahar, 2007), and students with low grade-point averages cheat more than high achievers (Straw, 2002); although Leming (1980) found no such pattern. Cheating has also been found to be more prevalent among sorority and fraternity members (Stannard & Bowers, 1970), and among students who believe peers are cheating but not being caught (McCabe & Trevino, 1993; 1997).

Other demographic factors, such as age and maturity may also impact attitudes and prevalence of dishonest practices. In a study of information technology students, Sheard, Markham and Dick (2003) found that there were more incidents of cheating in undergraduate courses compared to graduate courses. However, there were no consistent patterns of either increasing or decreasing numbers of reported incidents in undergraduate courses. The authors conclude that age-based maturity alone cannot explain differences between undergraduate and graduate students. They speculate that more mature students tend to enter graduate studies more for the sake of learning and personal development compared to undergraduates who may have more vocational interests in their studies.

Plagiarism and cheating are culturally loaded concepts, and students from non-Western cultures have been accused of engaging more frequently in such offences (Leask, 2006). Asian students have been found to commit themselves to surface and rote learning and some universities offer courses in how to think and reason critically for this target group (Leask, 2006). Kember (2000) makes the point that memorisation and an intention to understand could be parallel processes. Learning by heart is also a logical strategy if rote learning is perceived as important in the course. Concepts of integrity are value-laden and may tend to stigmatise non-Western students as inferior to their Western peers. Investigating engagement in academic dishonesty among this group is still important as such data are crucial when strategies to curb dishonest practices are on the agenda.

Perceptions of cheating vary among students, and the same applies for beliefs of severity of offences. For example, students consider dishonesty related to exams and

tests more serious than out-of-class violations, such as not contributing to a group project (Rakovski & Levy, 2007). Behaviours that students consider least serious are also the most common (Kidwell, Wosniak, & Laurel, 2003). One study indicates that students were more likely to help someone cheat than to actively engage in cheating (Whitley & Cost, 1999).

There is no known single reason why students engage in dishonesty, but some say this problem is exacerbated by modern technology such as the Internet, and by evolving cultural norms, for example, larger acceptance of unethical actions (Brimble & Stevenson-Clarke, 2006). Furthermore, the so-called "Millennial generation" (the current generation of college-aged students) was raised during an institutionalised self -esteem movement in the United States that taught students to love themselves but not to control their behaviour (Twenge, 2006). One study investigated whether a lack of "self-control" was an indicator of predisposition to academic dishonesty, and found that lack of self-control can be mitigated by developing attitudes in favour of academic integrity. This finding provides additional support for the development of honour codes (Bolin, 2004), which are already widely used at a large number of American colleges and universities.

The challenge of academic dishonesty is not unique to American students and American higher education may not necessarily be worse off in this respect than other nations. Issues of academic integrity have been more extensively researched and gained more attention compared with other countries, so most of what we know about the prevalence of academic dishonesty is based on the North American experience. However, there is a growing body of evidence that academic dishonesty is widespread elsewhere, including countries such as the United Kingdom (Ashworth, Bannister, & Thorne, 1997) and Australia (Brimble & Stevenson-Clarke, 2005). In a survey of tertiary institutions in the United Kingdom, 80% of respondents claimed there had been an increase in incidences of plagiarism since the mid-1990s (Larkham & Manns, 2002).

A literature review covering many countries concludes that plagiarism "is a major challenge to institutional aspirations of academic integrity and a major threat to quality assurance and enhancement" (Park, 2003). Even though universities and colleges often, in their policy documents, pride themselves on strict ethical rules and high academic standards, reality often diverges from ideals, though the reality may be difficult to verify. In a British study of plagiarism, Larkham and Manns (2002) encountered much secrecy, and some institutions refused to respond on the grounds of "confidentiality."

Under most honour codes both students and academic staff are accountable on issues of academic integrity. A New Zealand study concludes, though, that many staff members elect not to confront instances of dishonesty, although their institution's policy is otherwise functioning adequately (de Lambert, Ellen, & Taylor, 2006). Prominent reasons for the non-participation were fear of lack of support and the workload associated with cases. The study concludes that teaching attribution and citation requirements is helpful to students, but it also suggests that more should be done to structure tasks and evaluation/grading criteria in ways that would reduce temptations to engage in cheating.

I. Analysis of reported incidents

Figure 1 presents the number of integrity charges by year along with the number of dismissed cases. Incidents increased from 2001 to 2006, as did the number of dismissed charges. The dismissal rate hits a peak in 2003 (28.1%) and a low in 2004 (16.8%), with an average of 21.6%. For the remainder, the number of reported incidents will be used.

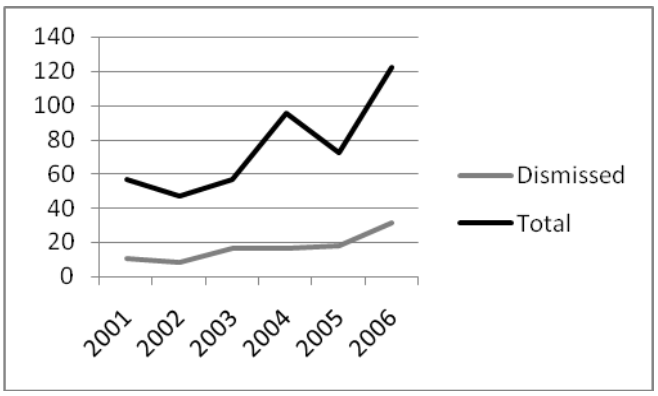

Figure 1. Number of charges and dismissed charges by year, 2001-2006

The majority of reported offenders are active students in good academic standing defined as having a cumulative Grade Point Average (GPA) of 2.00 or greater[1]. The second largest group is students on first semester probation (P1) with no previous suspension.

Freshmen and sophomores are reported more often than juniors and seniors. A test further confirms that the frequency of charges is higher among freshmen, sophomores, and graduate students, while there are fewer than expected charges among juniors and seniors (Appendix A). Only 0.2% of reported students were charged with four or more integrity violations, 5.1% had two, and the majority (94.7%) had one.

Most reported students perform on the "average" indicating that their GPA is ≥ 2.00 and ≤ 2.99[2]. This contradicts results in earlier studies concluding that students with lower GPAs are more likely to engage in misconduct than those with higher scores (Crown & Spiller, 1998; McCabe & Trevino, 1997). The finding that the most reported students perform on the "average" holds true both for "upperclassmen" (JR+ SR) and "underclassmen" (FR + SO).

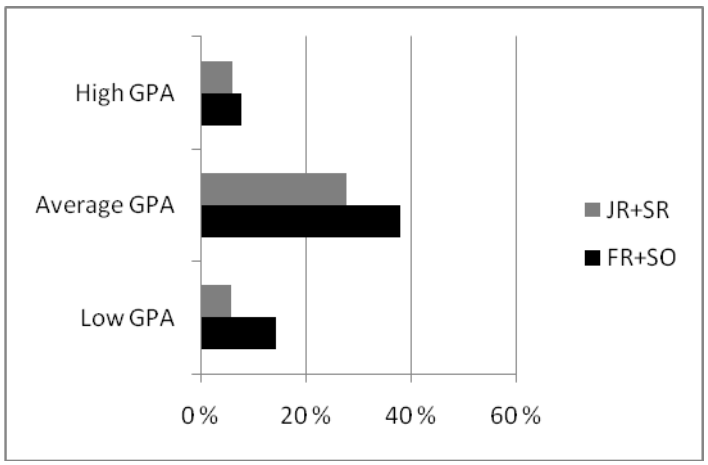

Figure 2. Charges for upperclassmen (JR+SR) and underclassmen (FR+SO), 2001-2006

International students were overrepresented in frequency of charges, except in 2005. They decreased in incident rate from 2001 to 2005 whereas the relative frequency of charges against domestic students increased. In 2006, international students accounted for 9.2% of the total student population and 13.9% of the number of

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integrity charges. A statistical test confirms that for the period from 2001 through 2006, international students exhibited greater incident rate than domestic students (Appendix C). The majority of these students were from Asia (China 4.8%, India 4.1% and Malaysia 2.1%).

For the entire period (2001-2006) the average rate of violations by students not belonging to sororities, fraternities or athletes is 0.9% of their share of the student population. The relative frequency of reported incidents is higher (1.1%) for fraternity and sorority members, and athletes are the most frequent cheaters (1.3% of their share of the total student population).

The College of Engineering and the School of Business Administration rank highest in terms of ethical transgressions with 1.6 % of their share of the total student population each, followed by the college of arts and sciences (1.5%) and the school of technology (0.8%) (Figure 3). A statistical test rejected the hypothesis that the proportion of integrity charges for each school was equal (Appendix B).

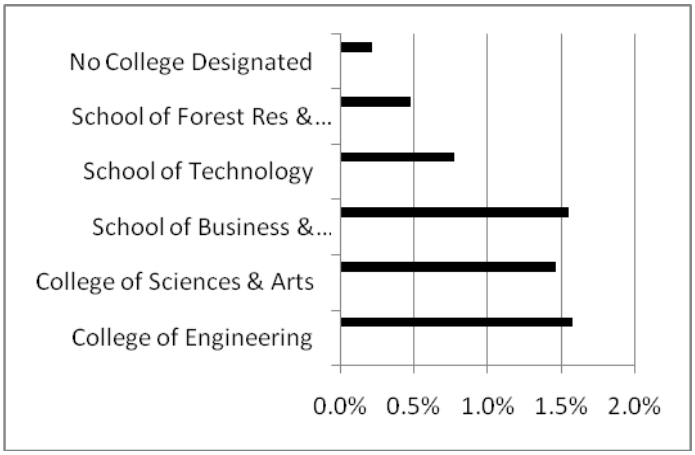

Figure 3. Integrity charges by school, 2001-2006

Females accounted for an average of 16.8% of all integrity charges from 2001 through 2006, whereas males accounted for 83.2% with an average share of the student population of 75.3% in the period. This finding aligns with previous studies concluding that integrity deviances are higher for males than females (McCabe & Trevino, 1997). The female share of the student population has decreased from 26.2% in 2001 to 23.6% in 2006 with an average of 24.7% for the whole period. The female proportion of the integrity charges was less than the female proportion of enrolled students, except for 2005.

Summary of Part I

The number of reported incidents was more than doubled from 2001-2006. This is of concern, yet we do not know the extent to which reported incidents give a true picture of the state of academic integrity. Incidents of reported offences are smaller among graduate students as compared to undergraduates, a finding supported also by evidence in the research literature (see literature review). Reported incidents are high in undergraduate studies, with the exception of the number of juniors reported; however, our data do not offer any explanation for this. The School of Business and Economics and the College of Engineering rank on top in terms of reported incidents, and international students were more frequently reported than domestic students, as were males compared to females.

II. Results of Academic Integrity Surveys

These surveys were developed by Professor Don McCabe of Rutgers University and the Center for Academic Integrity for the purpose of determining the number of unreported incidents and student/academic staff attitudes about academic integrity. Two versions of the survey were used—one for students and one for academic staff. To alleviate concerns, respondents were informed that they would remain anonymous. We also believe that anonymity yielded more truthful responses. Both surveys were split into four sections, dealing with the academic environment, the prevalence of specific behaviours, demographic data, and free responses.

Conducting the surveys was part of a broader initiative to evaluate the possibility of modifying the university's honour code. The surveys, which included both closed and open-ended questions, were submitted to 499 academic staff and 6,376 students. The response rate was 34% (n = 172) and 15% (n = 948) respectively. While the share of female students (2001–2006) was 24.7%, the female response rate was higher for undergraduates (34%) and especially for graduate students (60% versus 49.4% of enrolled graduate students in 2008). The over-representation of females in the survey might have affected the outcome, as our study has already shown that females tend to cheat less than males. Gender distribution of the academic staff responding is close to real numbers on campus (36% females in the survey versus 37.7%). Novice teachers as well as experienced professors participated in the survey. Out of these, 28% claimed to have fewer than five years of teaching experience, while 25% had more than 25 years.

Of the student respondents, 105 were graduate students; the remainder were undergraduates. Academic staff and student respondents included an acceptable cross section of the university community by academic rank (academic staff) and class rank and standing (students). The student response rate is a matter of concern, but observations of staff who handle the conduct cases support the reliability of the student survey data. Most items were identical for students and academic staff, but we review only questions that relate to the research questions of our study.

In total, 85% of graduate students and 97% of the undergraduate students in the sample claim they have been informed about academic integrity policies. When asked where they have learned about these policies, the major information source is academic staff, class discussions, course syllabi, and course outlines. Measures such as a first-year orientation program, the campus website, a student handbook, and the contribution of campus advisers and officials had moderate or little impact. The most effective forum for learning about integrity issues is the classroom. This aligns with responses showing significant consensus on how often instructors discussed academic integrity policies.

Two survey items specifically address the extent to which instructors discuss policies concerning referencing of written sources and Internet sources. Our data indicate that issues of citation and referencing receive more attention among graduate students compared to undergraduates. For example, 30% of graduate students respond that citation policies had been discussed "very often" while undergraduates responded only 15%. This makes sense as graduate students typically spend more time on research papers than do undergraduates. Academic staff members play a key role as coaches for novice researchers, and basic skills would typically include proper referencing and acknowledgement of others' work.

In the first section of the survey, estimates of the frequency of three different integrity transgressions were made. Table 1 reports complete data of the survey item: "How frequently do you think the following occur?" Academic staff consistently rated the frequency of the suggested violations higher than did students. Student estimates

may be lowered by an unwillingness to acknowledge violations, or by their idiosyncratic personal definitions of "cheating," as discussed by Charlesworth, Charlesworth and Vician (2006). In this study, 50% of the students defined "cheating" as copying or taking answers, 25% as getting or giving answers, and 25% as "rule-breaking." The latter category encompassed "any action not allowed by the instructor." If course-specific policies are ambiguous, academic integrity violations can occur intentionally or unintentionally. Instructors might be suspicious that cheating and plagiarism occur more frequently than they can prove. Perhaps reality lies somewhere in between the two?

Table 1.
How frequently do you think the following occurs? [%].

	Undergraduates		**Graduates**		**Faculty**	
	Never/ Very Seldom	**Often/ Very Often**	**Never/ Very Seldom**	**Often/ Very Often**	**Never/ Very Seldom**	**Often/ Very Often**
Plagiarism on written assign-ments	35	**16**	20	**36**	12	**40**
Students inappropri-ately shar-ing work in group as-signments	14	**50**	17	**50**	9	**53**
Cheating during tests or examina-tions	59	**12**	40	**23**	40	**18**

The majority of students (64%) claim they have never seen another student cheating, but only a minority of the academic staff (44%) makes the same claim. Conversely, 31% of the academic staff have seen a student cheating, while graduates and undergraduates alike report 18%, so there appears to be a mismatch in observations between students and staff.

When students were asked if they ever reported another student for cheating, 90% of graduate students and 97% of undergraduates reported they had not. Under-reporting also occurs due to lack of evidence. A total of 40% of the academic staff respondents admitted they had ignored a suspected incident of cheating due to lack of proof. The most frequent offence was students working with peers when asked for individual work.

In the second section, the survey listed 26 specific actions that people might consider to be cheating. The purpose of this item was to map frequency of listed actions based on students' self-reporting. Results are presented as a percentage of respondents in each category, and each statement is mutually exclusive; so the total for each is 100% (or very close to 100% due to rounding as shown in Table 2). Students were asked how often in the last year they had engaged in any of the listed actions, while academic staff were asked to mark if they had observed or become aware of any student engaging in any of the listed actions in the last three years. Table 2 exhibits

the five most frequent unethical actions based on undergraduates' ratings, and the next seven items show the least frequent actions. Table 2 confirms that students and academic staff differ in their perceptions and beliefs of the frequency of actions as do graduates and undergraduates. Graduate students report consistently lower frequency of all of the top-listed unethical behaviours compared to undergraduates. This might be due to the lower level of dishonesty at graduate level, as discussed earlier. The much higher response rate of females among graduates might also partially account for the results.

Table 2.
Frequency of offences as seen by students and academic staff, 2008

Frequency of Specific Behaviours Undergrad., n=843, Grad., n=105, Faculty, n=172	**Never [%]**	**Once [%]**	**More than Once [%]**	**N/A [%]**
Working w/others when asked for individual work	45, 70, 24	19, 11, 6	**32, 11, 53**	4, 9, 17
Receiving unpermitted help on an assignment	67, 82, 44	16, 8, 9	**13, 4, 36**	4, 6, 12
Copying (by hand or in person) another's homework	71, 83, 35	15, 6, 9	**13, 6, 47**	2, 6, 9
Copying from electronic source without footnoting	67, 76, 24	17, 13, 4	**12, 9, 58**	5, 4, 15
Copying few sentences from written source w/o citing	71, 77, 21	13, 11, 5	**10, 8, 58**	6, 4, 15
Getting help electronically during an exam	97, 91, 80	1, 1, 3	**1, 0, 2**	2, 8, 15
Using electronic device as unauthorized aid during exam	96, 92, 76	1, 0, 6	**1, 0, 5**	2, 8, 13
Turning in work done by someone else	95, 95, 57	3, 1, 12	**1, 1, 23**	1, 3, 5
Copying during test with other's knowledge	95, 90, 54	2, 1, 14	**2, 1, 22**	2, 8, 10
Copying material word for word from written source	95, 95, 42	2, 1, 17	**1, 1, 29**	2, 3, 11
Turning in paper from term paper "mill" or site	95, 95, 74	1, 1, 3	**0, 0, 1**	4, 4, 21
Copying material, word for word, from written source.	95, 95, 42	2, 1, 17	**1, 1, 29**	2, 3, 11

The survey also asked students and academic staff about the severity of the 26 listed actions. Four response categories were suggested to each item: "not cheating," "trivial cheating," "moderate cheating," and "serious cheating." Due to space limitations, only those actions considered most serious by students are listed in the upper half, and the least three serious actions are listed in the lower half, of Table 3.

Seventy-one percent of undergraduate students, 86% of graduate students and 89% of academic staff considered word for word copying "serious cheating." More than 80% of undergraduate students and more than 90% of graduate students and academic staff considered copying during tests without others' knowledge to be serious. Working with others when assigned to do individual work is assessed differently as only 5% of undergraduates consider this a serious offence, 35% of academic staff do; graduate students are in between with 19%. The same actions are assessed as increasingly more serious by respondents of higher academic rank. A partial explanation would be that increased academic maturity also helps people understand the severity of dishonesty.

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Table 3.
Seriousness of offences as reported by students and academic staff, 2008

Examples of Specific Behaviours Undergrad., n=843, Grad., n=105, Faculty, n=172	Not Cheating [%]	Trivial Cheating [%]	Moderate Cheating [%]	Serious Cheating [%]
Copying during test w/o other's knowledge	3, 3, 1	2, 1, 1	13, 6, 8	**83, 91, 90**
Copying during test with other's knowledge	3, 3, 1	2, 1, 1	13, 10, 6	**82, 86, 92**
Turning in paper from term paper "mill" or site	3, 3, 1	2, 1, 1	12, 8, 4	**82, 89, 95**
Working w/others when asked for individual work	18, 11, 4	52, 32, 15	25, 37, 46	**5, 19, 35**
Work w/others electronically on individual work	17, 11, 4	50, 34, 15	28, 35, 44	**5, 20, 37**
Receiving unpermitted help on an assignment	11, 5, 2	41, 22, 15	36, 41, 53	**13, 32, 31**

Thirty percent of academic staff respondents stated that plagiarism occurred "often" and nearly 10% said "very often." Only 11% of undergraduates stated that plagiarism occurred "often," and less than 5% said "very often." Only 1% of students admit they have engaged in copying material, word for word, from a written source, while 29% of the academic staff have either observed or become aware of such behaviour during the last three years.

The fact that students tend to downplay the seriousness of certain offenses poses a challenge, and such contradicting views must impact on the selection of measures to reduce cheating. In their response to what safeguards they employ to reduce cheating in their classes, 66% of academic staff suggest that changing exams regularly and closely monitoring students taking a test/exam are the most effective methods although they say that plagiarism and inappropriate collaboration are more frequent problems. Professors also employ a range of other measures, such as reminding students of the integrity policy, and discussing the importance of honesty in academic work. Parents could potentially also assist instructors as 70% of undergraduates and 77% of graduates reported that their parents would disapprove of cheating "very strongly," while their peers would be much less disapproving (22% versus 42% respectively).

According to the narrative responses in the surveys, academic staff and students hold different understandings of what constitutes "plagiarism." One professor commented that "what's missing is educating students on how to not plagiarise. Many students who plagiarize do so out of ignorance rather than intent." Students commented that the university needed a clearer outline of what constituted plagiarism. One student observed: "Many times students are accused and punished for plagiarism that was unbeknownst to them. These students come out of high school without any formal knowledge of what plagiarism is."

Another important issue is what group should be responsible for "policing" the academic integrity policy. In institutions with formal honour codes, students are expected to report academic integrity violations of other students. In the academic staff survey, almost 50% of respondents agreed with the statement, "Students should monitor each other's integrity," and 11% "strongly agreed." In contrast, only 25% of undergraduates agreed, and fewer than 5% "strongly agreed."

The open-ended responses from students regarding collaboration were revealing and consistent with the survey results, indicating that students downplay the seriousness of violating collaboration rules. Many students stated a preference for working in groups on assignments regardless of the course rules. For example, one student said that the university needed to be more lenient about group work because "if you want us to learn

how to work on a team, how about you let us actually work together?" Another student said, "Make sure students know the difference between help with homework and cheating. I mean you say you can always ask for help. So when we do ask for help you call it cheating," "I'd like to see students better informed about specific policies regarding group work and collaboration," and "some classes are hard and that is the only way you can learn the material. If teachers actually genuinely wanted students to learn, group work should be encouraged a **lot** more."

What impact will student attitudes about collaboration have on the success of an honour code? Many professors were enthusiastic about the concept of an "honour code" that includes a requirement that students sign an honour pledge on each test or assignment. One of them commented, "Faculty need to take an active role in telling students what they expect … [Students] need to know what we value in our courses. It doesn't mean they won't cheat, but at least the ones who do will have no excuse for it."

In contrast, student responses to the idea of an honour code ranged from negative to lukewarm. For example, "Asking students to enforce other students [sic] is a bad idea. Most of them will not cooperate and the ones that do report could be labelled for the rest of their collegiate careers if caught reporting someone." "Students should not be held responsible for reporting other students … it's the school's [job]. "Some students requested an anonymous reporting system. One student stated that students should be encouraged to report observed cheating to the instructor. A few students recommended enforcement within the peer culture without involving instructors or the administration, for example: "if one kid keeps cheating then he won't have any friends anymore because the kids won't let him keep cheating." A few students recognised that ignoring cheating would hurt them academically by providing an unfair advantage to dishonest students.

Summary of Part II

The vast majority of students claim they have learned about the academic integrity policy of the Subject University. Information is conveyed in classroom settings and discussed in the disciplines. First-year information programs, the campus website, the student handbook and the contribution of campus officials had little effect. Information strategies and extensive discussions in classrooms did not put an end to academic deviances. Many responding professors (40%) admitted to ignoring at least one suspicious incident due to lack of proof, and concerns over academic dishonesty increased with academic maturity. Examples of what students consider "serious offences" are incidents in which copying is performed in a test. At the opposite end, collaboration is widespread to the extent that hardly anyone considers this an offence, even when individual work is expected. Students are also more tolerant in their rating of the seriousness of incidents. In meeting integrity challenges, the best measures, according to academic staff, are those that address aspects of tests; closely monitoring exams and changing exams regularly.

III. Addressing the challenges

Increasing numbers of reported incidents and different attitudes between students and academic staff about what constitutes academic dishonesty both lead to urgent questions. Why are these phenomena occurring, and what are the most effective ways of counteracting integrity offences? Is the answer solely a question of providing more orientation and training, or is the issue more complex? In response to the reporting data and the survey data discussed above, we make the following recommendations:

A. This study confirms the important educational consequences of initiatives to promote academic integrity in the disciplines. Institutions should develop and communicate clear expectations about academic integrity rules and course policies, and seriously try to make students comply with the rules. Furthermore, as data collected but not reported here indicate spikes in incidents during well-defined periods ahead of exams, additional reminders should be communicated prior to those periods. The data also suggest that academic staff need to recognise that graduate students also require orientation on academic integrity.

B. The data show a strong disconnect between student and academic staff perceptions of behaviours in two areas of academic dishonesty: plagiarism and unauthorised group work. As noted above, academic staff members believe there is much more plagiarism taking place than do students. Explicit recurring discussion of the meaning of "plagiarism" should be incorporated into all curricula, not just traditional writing courses.

C. Student confusion about collaboration rules may result from variations in expectations of different courses, from student preference to work in groups, or from other factors such as confusion about the terminology used in the syllabus. Since the data indicate that students do not view “receiving unauthorised help" as a serious violation whereas academic staff see it as a serious violation, a two-pronged approach may be required: clear expectations communicated about the substance of the course rules and communication of expectations about the rules being followed (or the consequences of not following the rules). Still, ignorance does not alone account for the prevalence of integrity deviations. We also think that a degree of opportunism and cost-benefit calculations may induce students to engage in cheating. An effective way of managing collaboration and inappropriate use of sources lies in the assessment design, as academic staff rightfully acknowledge.

D. Since international students are over-represented in integrity violation charges, special orientation sessions targeted to these groups’ needs should be developed. They could include providing translations of the policy in students’ native languages, small group discussions during orientation, and cultural competency training to raise awareness of these populations' needs.

E. In the student survey, 70% of undergraduates and 77% of graduates reported that their parents would disapprove “very strongly” of academic integrity violations while their peers would be much less disapproving. Thus, parents may make effective partners in communicating academic integrity expectations. They could be recruited at parent orientation, via parent email lists, or university publications. Currently in the United States, the FERPA law (Family Educational Records Privacy Act) does not allow professors or staff to communicate freely with parents about their student's academic integrity violation unless (1) the student signs a release or (2) the parent claims the student as a dependent on federal income tax forms (this exception does not apply to international students).

Discussion

Reports of academic dishonesty are widespread and increasing at the Subject University, and there appears to be a perception gap between students and academic staff on the severity of ethical transgressions. McCabe (2005) found that “this younger generation of students was more lenient in defining what constitutes plagiarism” and that the “ethics of cheating is very situational for many students.” Some ethical transgressions are hardly perceived as unethical by students, and therefore existing strategies to promote academic integrity may not be fully valid, e.g., more information is not helpful if students ignore rules they are already aware of. Lawson (2004) found that

in particular “cheaters” tend to think that they would need to compromise ethical standards to promote their careers; “students view the practicality of an action as being more important than its ethicality” (p. 189).

The Subject University has put much effort into outreach and education so students will be clear about the expectations and the consequences of not meeting them. Our data also indicate that undergraduate as well as graduate students are well aware of institutional expectations of academic integrity. Surely, outreach and education about academic honesty can always improve, but knowing the rules is not sufficient to ensure acceptable behaviour. There is already evidence that teaching ethics has a limited effect on behaviour (Brimble & Stevenson-Clarke, 2005). Major gains stand to be made by removing opportunities for students to engage in dishonesty, for example by structuring course work in ways that reduce or eliminate the opportunity for academic dishonesty.

Marsden, Carroll and Neill (2005) conclude that the decision to engage in dishonest behaviour is a function of demographic, situational, and personality variables. Our data confirm that there are gender and cultural differences as well as differences between schools and level of study. The frequency of charges is higher among freshmen and sophomores and lower than expected among juniors and seniors. This aligns with findings reported by Stevens, Harris and Williamson (1993) concluding that seniors were better off ethically compared with freshmen. The concept of an ethics maturation process has been suggested to explain this; however, the notion of an inverse relationship between grade level and propensity to engage in ethical transgressions lacks research evidence (Lawson, 2004). In this study, graduate students self-report lower frequency of integrity violations compared with undergraduates, but our analysis confirms that the frequency of charges is higher than expected for graduate students.

International students are disproportionately over-represented in integrity charges at the Subject University. If they are to be recruited at increasing rates, more resources must be expended to explore significant cultural issues and individual needs and expectations. For example, it is well known that family pressures on Asian students to succeed can be intense, and sometimes educational paths not chosen by students are pursued. Furthermore, there are challenges associated with living in a new country, such as language issues and cultural barriers, and international students often struggle with lack of understanding of consequences of integrity violations. There might also be cultural factors to take into consideration, such as a kind of ends-justify-means logic.

Although this study shows a lower proportion of female integrity charges compared to males, previous research on gender differences show contradicting results. A study of 1,022 graduates at 119 universities and colleges (Andalo, 2006) supports the notion of gender differences in terms of frequency of integrity charges. Similar claims have been made by McCabe and Trevino (1997), although studies by Houston (1983) and Haines, Diekhoff, LaBeff, and Clark (1986) show no gender difference. Jacobson, Berger, and Millham (1970) found that females were more frequent cheaters than males; however, this is an old study, and modern technology might have changed this situation. An issue worthy of investigation here is the impact (if any) of gender when it comes to accusation and reporting; for example, are academic staff more willing to report male students than females and if so, why.

The Subject University has not yet adopted the use of an academic honour code although it is taking active steps in that direction. McCabe and Trevino (1993) found that using traditional honour codes represents an effective tool to reduce cheating. McCabe, Trevino and Butterfield (1999, p. 231) argue that “code students see themselves as part of a moral community that offers significant trust and freedom and has corresponding rules and expectations …” A study investigating the effects of modified honour codes concluded that they represent a good alternative to the traditional codes of large public institutions (McCabe & Trevino, 2002). The introduction of a modified honour code,

administered and endorsed by students, could be one component of a larger package of measures aiming at improving ethical practices. A partnership of instructors, staff, and students working as a team to develop ethical norms for the university community is more effective than having each constituency continue to handle these issues separately.

Referring to the four most common tenets of academic integrity codes ("no lying, no cheating, no stealing, and not tolerating those who do"), Bloomfield (2007) puts it this way: "Are we trying to stop a behaviour or promote a set of values? Do we treat the symptom (cheating) or the problem (norms surrounding cheating)?" If the latter is the case, the concept of constructive alignment (Biggs, 1999) may present an efficacious path. The idea of this holistic approach is to align frame factors, such as syllabi, class hours, learning activities, and assessment to promote learning outcomes based on honest academic practices. The legitimacy of certain behaviours is always rooted in values, but ethical behaviour can be promoted in ways that are discrete and less patronising about "right" and "wrong". The mere existence of rules does not necessarily induce people to comply with them. In our study, academic staff clearly discern the importance of the design and implementation of tests and assessments.

Promoting active student engagement with and deliberation about the learning process can also foster ethical decision-making. One student has echoed this idea in an essay written after being found responsible for an academic integrity violation:

Education is not about getting the right answer but rather the process of getting the answer. This is a fact that many students seem to overlook. Students become educated when they have gone through the thought process of analysing a problem, attempting different methods to solve the problem, making mistakes, correcting them, and finally arriving at the best possible solution. Student who plagiarise simply provide the solution without going through the whole thought process. They therefore miss out on the fundamental purpose of being a student which is learning by doing.

Greater responsibility for academic staff in confronting integrity issues and administering disciplinary measures is warranted because academic disciplines have their own rules and expectations. If academic staff and students were mandated to resolve first-offense and negligent integrity issues through mediation or facilitated discussion (with appropriate oversight by administrators to ensure due process), instructors would have incentives to become more proactive at the course design stage. This may include clear statements of expectations as well as requiring students to be tested individually to check their knowledge and skills as a mandatory component of the assessment design.

Yet another option to deter integrity violations would be to adopt a strict "detect and punish" approach. This might be useful in avoiding, for example plagiarism, but does not help students much to improve their writing skills. Dawson, Conti-Bekkers, Packer, and Fielder (2008) warn that a mechanistic and reductive perspective on academic integrity may fail to make students aware of other essentials of scholarly discourse and academic writing. The impact of the institutional context and the student culture is also underscored by McCabe and Trevino (1993). They found that individual differences such as age and gender were much less important than contextual factors of which peer disapproval was the most influential. Our study shows that peer disapproval of cheating is low, which may be indicative of a relatively high acceptance rate, or alternatively that the seriousness of such actions is comprehensively downplayed. McCabe and Trevino (1993) oppose the idea that such cultural challenges can be remedied by more detection and punishment strategies, and suggest that cheating rather should be viewed as educational opportunities.

Concluding remarks

The challenge for the Subject University is to reverse the scope of plagiarism and cheating there by implementing evidence-based measures. In addition to comprehensive guidance and clarity to students about academic honesty, we argue for greater involvement of academic staff and schools in training students about the requirements for being a member of an academic community. Students need generic introductory courses on the technicalities of citations and referencing as well as a range of interventions, such as exercises in critical reading, evaluating online sources, note making and paraphrasing (Dawson et al., 2008). This might be particularly useful for international students who may not be familiar with cultural norms of integrity and intellectual property regulations. Further, rules might not always be exactly clear, or hard to interpret: for example, how to separate one's own work from group work; and conversely, how to draw the line between inadequate contribution in group work and just a different type of contribution.

Because there is no single measure to meet everyone's needs, we believe in a holistic approach featuring the application of diverse measures firmly grounded in evidence of what works and what does not work. Balancing the punitive and educational aspects of policies is a major challenge and goal. The next step in this project for the Subject University is to implement the recommendations in Part III above beginning the 2008-2009 academic years. Outcomes will then be assessed to determine whether the recommendations have resulted in reduced academic integrity violation rates.

Although we acknowledge the limitations of the data collection methods applied in Part I and Part II respectively, we argue that the application of two different data sources increases the reliability of the study. Thus, we believe that the combined data lead to evidence-based recommendations for the Subject University, and might have broader applicability for other institutions of higher education.

Endnotes

[1]GPA is a measure used to determine a student's overall performance. It is calculated by dividing the grade points by the grade point hours and truncating the result.

[2]Typically grades in the "C" range are described as "average". "High Performers" are students with GPA > 3.00, which denotes GPA averages of "B" (3.0 in the Subject University) or better. "Low Performers" are students with GPA ≤ 1.99) which corresponds to grade point averages of "D" and below.

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Appendix A

Row	Total	Observed	Expected
FR	8113	123	113,596
SO	6841	126	95,786
JR	6430	61	90,031
SR	9102	105	127,443
GR	296	16	4,145

Cumulative Distribution Function

A chi-squared goodness-of-fit test was performed to test whether the proportions of reported students for the 5 categories FR, SO, JR, SR, and GR were equal. The chi-squared statistics with 3 degrees of freedom gave a value of 57.54, and the hypothesis is rejected at every reasonable significance level. Observed numbers are greater than expected for FR, SO, and GR, but lower for JR and SR.

Chi-Square with 3 DF

x	P(X <= x)
57,54	1,00000

Appendix B

A chi-squared goodness-of-fit test was performed to test the hypothesis that the proportions of integrity charges for each school were equal. The chi-squared tests with 3 degrees of freedom give a value of 35.74, and the hypothesis is rejected at every reasonable significance level. The School of Technology and the School of Forest Resources/Environment Science exhibit considerably lower proportions than the others.

Row	Total	Observed	Expected
1	17796	282	259,765
2	6526	96	95,259
3	2250	35	32,843
4	2190	17	31,967
5	1039	5	15,166

Chi-Square with 3 DF

x	P(X <= x)
35,74	1,00000

Appendix C

A test of the hypothesis that the proportion of integrity charges for U.S. students and international students for the years 2001-2006 were equal was performed. The test produces a p-value of 0.000 and the hypothesis is rejected.

Test and CI for Two Proportions

Sample	X	N	Sample p
1	366	34510	0,010606
2	82	3736	0,021949

Difference = p (1) - p (2)
Estimate for difference: -0,0113430
95% CI for difference: (-0,0161639; -0,00652211)
Test for difference = 0 (vs not = 0): Z = -4,61 P-Value = 0,000

Numbers in per cent by year (2001-2006):

	USA	International Students
1	0,51056	4,55285
2	0,63639	1,54560
3	0,78548	1,78306
4	1,45884	1,60000
5	1,16178	0,84317
6	1,80493	2,91595

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