Online Exams and Cheating: An Empirical Analysis of Business Students' Views

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Abstract

Academic integrity has been a perennial issue in higher education. Undoubtedly, the advent of the Internet and advances in user-friendly technological devices have spurred both concern on the part of faculty and research interest in the academic community regarding inappropriate and unethical behavior on the part of students. This study is designed to (a) gauge the attitudes of business students toward various issues and behaviors when taking an examination 'online' and (b) obtain an estimate of the extent of *cheating* in traditional versus online coursework from the perspective of college students. The results, based on a sample of 121 undergraduate business students from a university in the South, indicate that respondents felt quite liberal in their views of potentially *cheating* behaviors when there was no test-taking policy set by the course instructor. In addition, 73.6% of the students in the sample held the perception that it is easier to cheat in an online versus traditional course. We believe that, based on prior research, the current results would be applicable to general student populations in other academic disciplines. The findings are discussed in light of prior research on academic integrity issues and recommendations for future research are noted.

Introduction

Historically, academic integrity has been a perennial concern of faculty and administrators in higher education (Whitley, 1998). Recent estimates of the prevalence of *cheating* on college campuses indicate that a majority of students cheat to some extent (see Bolin, 2004; McCabe & Trevino, 1996; Rozycki, 2006). At the same time, educational researchers have addressed the vast variety of behaviors and types of issues that connote *cheating*, i.e., plagiarism, inappropriate bibliographic citations, use of papermills, and cheating from others on examinations (Crown & Spiller, 1998).

The advent of the Internet and the proliferation of online coursework at colleges and universities have presented a unique challenge to educators regarding academic integrity on the part of students enrolled in online courses (Renard, 2000). Perhaps the online environment or milieu contributes to temptation to use dishonesty (in its many forms) due largely to the lack of oversight on the part of instructors. Moreover, expediency is a major reason that students enroll in online coursework and, perhaps, when course demands and time pressures mount, over-extended students succumb to the use of inappropriate resources and strategies to complete course assignments (Sterngold, 2004).

The isolation that a student experiences in the online environment is conducive to increasing stress levels, with little relief that can be expected in the traditional faculty-student interaction (see Gibbons et al., 2002). In fact, Crown and Spiller (1998) contend that students who take courses with instructors who are perceived as *actively involved* are less likely to engage in academic dishonesty. As a sign that the enormity of this issue will not abate anytime soon, the current generation of Internet savvy students may view the mass of information on the Web as "fair use" and in the public domain (Scanlon, 2004).

Data on Prevalence

Statistical data on the extent of dishonesty and cheating in higher education vary widely. However, recent reports attest to the undeniable fact that the degree of cheating at the college level is alarming. McCabe (1992) found that 67% reported at least one incidence of cheating. With regard to online plagiarism, Scanlon and Neumann (2002) found *inappropriate cut and-*

paste infractions in 25% of their sample; however, much lower rates (less than 6%) for using 'paper mills' were noted. Alarmingly, one study reported that 80% of undergraduates in Australia admitted to cheating academically (Maslen, 2003). It must be noted that several researchers have downplayed concerns about academic integrity issues. For example, Grijalva, Nowell, and Kerkvliet (2006), in an empirical investigation, indicated that their evidence showed that academic dishonesty in online classes is no more pervasive than in traditional education. Commentaries by Roach (2001) highlight that small class size and intense interactivity of online class work safeguard students from submitting dishonest academic work.

Conceptual Framework

Academic dishonesty has been characterized as academic fraud by Becker et al. (2006). With this characterization, the fraud triangle (Ramos, 2003) used in business becomes relevant. The fraud triangle depicts three elements that are present when fraud occurs. These three elements are incentive/pressure, opportunity, and rationalization/attitude. As related to academic fraud, incentive/pressure focuses on earning a good grade (opportunity manifests itself in an environment when no one is watching). Rationalization/attitude becomes prevalent and excusable when there is a perception that "everyone is doing it." All three of the elements that make up the fraud triangle are potentially present in the "examination" environment. Moreover, incentive/pressure is equally present in a traditional environment and an online environment. In a traditional environment, the opportunity to cheat is minimized when the faculty member is present during the examination, requires that all notes, electronic devices, and other materials be put away, and watches the students. Unfortunately, this is not always possible in an online environment, and thus, requires the instructor to take other steps to minimize opportunity such as relying on timed exams and having students electronically affirm an "honesty" statement after completing each exam. However, this situation may be tempered in online courses where students are required to complete proctored exams under monitored conditions (Bartini, 2008). Attitudes toward cheating can differ between the traditional and the online environments depending on what students see and hear, policies enacted by the professor, and the institutional culture related to academic integrity.

Business faculty are facing increasing pressures to move course content and delivery to the online arena. This is occurring at a time when the business community is placing more importance on ethical mores and behavior. These two issues are not irreconcilable. However, business school faculty must be proactive in minimizing the three elements of the fraud triangle in the online exam environment.

We define *Cheating* as a transgression against academic integrity which entails taking an unfair advantage that results in a misrepresentation of a student's ability and grasp of knowledge. In the current online context, this includes obtaining inappropriate assistance either from an online source or adjutant, plagiarism, and false self-representation. The conceptual framework and design for the current study are based on 3 major premises: (a) the central concern over ethical behavior in the business world and in business education (e.g., Allmon, Page, & Roberts, 2000); (b) the relatively high rates of cheating reported by business school students (see Lupton et al., 2000); (c) the dearth of research on perceptions of cheating on examinations in online coursework. To that end, the present study gauges the attitudes of undergraduate business students on the appropriateness of varied behaviors/issues in taking an examination online in an online course. Data are based on an undergraduate sample from a college of business at a medium-sized university in the South.

Method

Participants

The sample in this study was obtained from undergraduate courses in accounting. Students (N=121) from classes in Intermediate Accounting I, Intermediate Accounting II and Tax served as subjects. Participation was voluntary and respondents' identity remained anonymous.

Instrument

Based on queries used in prior research on academic integrity and the authors experience in teaching online courses, an 11 item questionnaire was constructed. The queries reflected issues, potentially dishonest behaviors, and reference to technology usage when taking an examination online. A Likert-type scale (Very Inappropriate, Somewhat Inappropriate, Neutral, Somewhat

Appropriate, Very Appropriate) was the response format used. Responses were scored 1 to 5, with the higher value reflecting "appropriateness"; thus, lower scores indicated that the respondent felt that the item was indicative of *cheating*. This 11-item Cheating Questionnaire (hereon, CQ) was presented under two separate scenarios: (1) when the course instructor did not provide any policy or restrictions on test-taking, and (2) when the instructor's guidelines or policy on test-taking *specifically disallow* the issue or behavior designated in each CQ item. In addition, five queries followed Parts 1 and 2 that inquired on the degree of cheating that students would estimate is occurring in online courses versus traditional courses. This section followed the main CQ so as not to contaminate the 'response set' since the CQ survey did not make direct mention of the word *cheating*.

Mediating Variables

The survey form requested information on type of course, age, gender, and prior online course experience. These variables have been noted in prior research as potential influences in online coursework; thus, these served as independent variables in the current study.

Results and Discussion

All data from the 121 survey forms were entered into the SPSS data analysis program. Respondents' scores on each of the 11- items of the CQ were summed to provide a composite *cheating* level score for each student on both scenario formats. Interestingly, t-test comparisons indicated no significant differences on CQ scores based on course-type, gender, or the number of prior online course experiences. Prior studies have found that female students and those with prior distance learning experience express more favorable attitudes toward non-traditional coursework (see Harris & Gibson, 2006; Lupton et al., 2000). The only age group difference that proved significant was the comparison between those participants aged under 26 versus those older than 26; the older respondents considered the CQ items as more indicative of 'cheating' than younger students.

Table 1 provides the percentage of respondents who endorsed the level of appropriateness on each issue or behavior reflected by the 11 CQ items under scenario 1 where direct policy set by instructor is lacking, and scenario 2 where the instructor disallows the specific behavior.

TABLE 1: Percentage of endorsement on CQ items under two (scenarios) conditions

Item	Very Inappropriate	Somewhat Inappropriate	Neutral	Somewhat Appropriate	Very Appropriate
1. Using an open book during an online exam	7(71)	3(9)	18(11)	29(6)	42(3)
2. Having another person take the online exam for the student	97(94)	2(3)	1(3)	1(1)	0(0)
3. Consulting with other people during an online exam	50(82)	17(6)	18(10)	10(3)	5(0)
4. Obtaining the exam from another student prior to test time	77(87)	15(3)	4(8)	3(2)	1(0)
5. Retaining or copying an exam for future use	50(74)	17(7)	18(12)	10(4)	5(3)
6. Utilizing online sources during the exam	21(78)	9(8)	34(7)	22(5)	14(2)
7. Relying on print reference sources, other than the main textbook	12(72)	7(7)	31(10)	28(10)	22(2)
8. Using personal class notes during an online exam	9(68)	3(10)	24(10)	24(9)	41(3)
9. Using more time on an online exam than allotted by the instructor	48(75)	18(10)	19(11)	12(3)	3(1)
10. Using cell phone text messaging to send or receive exam questions or answers to/from another student	82(90)	8(3)	5(3)	5(2)	0(1)
11. Using prior exams from fraternity/ sorority/club sources	60(81)	14(4)	14(8)	7(5)	6(2)

Note.   Values are percentage endorsed in the 'no instructor policy' scenario; values in parentheses ( ) are for the 'disallowed by instructor' scenario; N = 121.

Interestingly, under the first scenario, several issues were noted as quite acceptable by a majority of respondents such as using an open book (item #1), relying on print reference sources (item #7), and using class notes (item #8). Moreover, students felt neutral toward several items. Furthermore, only three items (#2, # 4, #10) were found to be clearly inappropriate by 90% or more of the sample; these reflected relying on another student to complete exam questions.

In reference to responses to the second scenario, where explicit policies are set by the instructor, over two-thirds of the sample respondents deemed all 11 issues or behaviors on the CQ as quite inappropriate. However, a sizeable minority of respondents still felt that some of the CQ issues/behavior are either neutral or appropriate. Perhaps, such liberal and morally questionable attitudes reflect the *net* generation's stance that many online practices and behaviors are considered acceptable by their peers (Scanlon & Neumann, 2002).

Table 2 shows the results for the estimation of prevalence queries regarding online versus traditional coursework. Clearly, the majority of the students held the belief that more cheating occurs in online courses. In fact, about three-fourths (73.6%) of the respondents have the perception that it is easier to cheat in an online versus a traditional course.

Strategies to Confront Cheating on Online Exams

Based on the current findings, it appears that contemporary students have rather lax attitudes toward suspect behaviors or ethical issues when taking online exams. Thus, it is incumbent on instructors to take proactive actions in online courses to reduce the temptation or need to engage in *cheating* by students. First, academicians have suggested that it is critical to clearly spell out the academic standards regarding what constitutes cheating by the college or university at large and by individual faculty at the commencement of each course (Scanlon, 2004). In fact, honor code strategies and integrity guidelines should be posted in print form, available on educational web sites, and openly discussed in the classroom (see Gibbons et al., 2002). One excellent resource is the Center for Academic Integrity at Duke University which offers an "Academic Integrity Assessment Guide' to assist institutions in formulating policies (Website, http://www.academicintegrity.org). Moreover, McCabe and Trevino (1993) stress the

importance of making students aware of potential disciplinary actions taken for infractions of academic integrity policies.

TABLE 2: Percentage of endorsement on extent of predicted degree of cheating by fellow business students

1. In an ONLINE course, to what extent do you feel that a student may take the opportunity to "cheat" while taking an online exam?				
Never (20)	Occasionally (28)	Moderately (25)	Frequently (21)	Always (7)
2. In a TRADITIONAL CLASSROOM course, to what extent do you feel that a student may take the opportunity to "cheat" while taking an exam in class?				
Never (39)	Occasionally (53)	Moderately (6)	Frequently (3)	Always (0)

3. Please give an estimate of students who "cheat" in an ONLINE course.						
0-10%	11-25%	26-49%	50%	51-74%	75-89%	90-100%
17	18	18	16	17	8	5
4. Please give an estimate of students who may "cheat" in a TRADITIONAL CLASSROOM course.						
0-10%	11-25%	26-49%	50%	51-74%	75-89%	90-100%
56	30	12	1	1	0	0

5. Overall, do you think that it is "easier" for a student to cheat in an ONLINE course than in a TRADITIONAL CLASSROOM course?		
YES	ABOUT THE SAME	NO
73.6	20.7	5.8

Note. All values depict percentage of endorsement by respondents (N = 121).

With reference to online exams in online courses, instructors might consider giving frequent but short time-intensive exams (see Grijalva et al., 2006) or rely on essay-type format. Such strategies provide a more accurate assessment of a student's unique grasp of pedagogic material and makes responses more difficult to replicate (Gibelman et al., 1999). Interestingly, one recent study found that students expressed liberal views toward appropriate disciplinary options depicting scenarios regarding cheating during an exam (Carter & Punyanunt-Carter, 2006).

To advance research on the issue of cheating in online courses, we offer several suggestions regarding lines of investigation that should prove fruitful in future studies: a) compare student samples from online classes versus those who take online exams as part of a traditional or *Blended* course format; b) compare students across various academic disciplines and at different class levels (e.g., freshmen, seniors, graduate students); and c) examine differential attitudes based on instructors' directives regarding the nature and degree of enforcement for transgressions of cheating policy.

References

Allmon, D. E., Page, D., & Roberts, R. (2000). Determinants of perceptions of cheating: Ethical orientation, personality, and demographics. *Journal of Business Ethics*, *23*, 411-422.

Bartini, M. (2008). An empirical comparison of traditional and web-enhanced classrooms. *Journal of Instructional Psychology, 35*(1), 3-11.

Becker, D., Connolly, J., Lentz, P., & Morrison, J. (2006). Using the business fraud triangle to predict academic dishonesty among business students. *Academy of Educational Leadership Journal*, *10*(1), 37-54.

Bolin, A. (2004). Self-control, perceived opportunity, and attitudes as predictors of academic dishonesty. *Journal of Psychology*, *138*, 110-116.

Carter, S. L., & Punyanunt-Carter, N. (2006). Acceptability of treatments for cheating in the college classroom. *Journal of Instructional Psychology*, *33*(3), 212-216.

Crown, D. F., & Spiller, M. S. (1998). Learning from the literature on collegiate cheating: A review of the empirical literature. *Journal of Business Ethics*, *17*, 683-700.

Gibbons, A., Mize, C. D., & Rogers, K. L. (2002). *That's my story and I'm sticking to it: Promoting academic integrity in the online environment.* (ERIC No. ED 477016).

Gibelman, M., Gelman, S. R., & Fast, J. (1999). The downside of cyberspace: Cheating made easy. *Journal of Social Work Education*, *35*, 367-376.

Grijalva, T. C., Nowell, C., & Kerkvliet, J. (2006). Academic honesty and online courses. *College Student Journal*, *40*, 180-185.

Harris, M. L., & Gibson, S. (2006). Distance education vs face-to-face classes: Individual differences, course preferences and enrollment. *Psychological Reports*, *98*, 756-764.

Lupton, R., Chapman, K., & Weiss, J. (2000). A cross-national exploration of business students' attitudes, perceptions, and tendencies toward academic dishonesty. *Journal of Education for Business*, *75*, 231-236.

Maslen, G. (2003). 80% admit to cheating in survey of students on Australian campuses. *Times Higher Education Supplement*, Jan. 24, 17.

McCabe, D. L. (1992). The influence of situational ethics on cheating among college students. *Sociological Inquiry*, *62*(3), 365-374.

McCabe, D. L., & Trevino, L. K. (1993). Academic dishonesty: Honor codes and other contextual influences. *Journal of Higher Education*, *64*(5), 522-539.

McCabe, D. L., & Trevino, L. K. (1996). What we know about cheating in college: Longitudinal trends and recent developments. *Change*, *28*(1), 28-33.

Ramos, M. (2003). Auditors' responsibility for fraud detection. *Journal of Accountancy*, *195*(1), 28-35.

Renard, L. (2000). Cut and paste 101: Plagiarism and the Net. *Educational Leadership*, *57*(4), 38-42.

Roach, R. (2001). Safeguarding against online cheating. *Black Issues in Higher Education*, June 7, 92.

Rozycki, E. G. (2006). Cheating impossible: Transforming educational values. *Educational Horizons*, *84*(3), 136-138.

Scanlon, P. M. (2004). Student online plagiarism: How do we respond? *College Teaching*, *51*(4), 161-165.

Scanlon, P. M., & Neumann, D. R. (2002). Internet plagiarism among college students. *Journal of College Student Development*, *43*(3), 374-385.

Sterngold, A. (2004). Confronting plagiarism: How conventional teaching invites cyber-cheating. *Change*, May-June, 16-21.

Whitley, B. E. (1998). Factors associated with cheating among college students: A review. *Research in Higher Education*, *39*(3), 235-273.