

# Cheating Online: The Effects of Time and Distraction on Performance in Marketing Concept Tests

Susan Brudvig, subrudvi@iu.edu

## Abstract

The delivery of online exams is growing in online, flipped, and traditional classrooms. A challenge in this environment is creating online exams that assess learning without compromising academic integrity. This challenge is especially pertinent for knowledge exams that test conceptual foundations of a discipline, a common practice in introductory marketing classes.

Evidence supports the claim of students cheating in online tests (e.g., Oliverio 2013). Scores often are higher when exams are administered online rather than in a written format (e.g., Shulman & Boster 2014). Moreover, students who complete online tests score higher when allowed more time to complete exams (Oliverio 2013).

The online testing problem is especially acute for fact-based knowledge tests (Trenholm 2007). Unauthorized help (“cheating”) is more prevalent during recall questions (short-answer or fill-in-the blank), which have higher levels of difficulty than recognition questions (true/false or multiple-choice; Boster and Shulman 2013, Shulman and Boster, 2014). Although the evidence of online cheating is clear, there is limited understanding of the cheating among different types of knowledge exams.

Concern for the integrity of online assessment leads to deterrence activities, including short testing windows, tracking software, and limited test time (Cluskey, Ehlen & Raiborn 2011). Time pressure, distractions and cognitive busyness may impact students’ test scores (e.g., Gilbert 1991). Unfortunately, little is known about the effectiveness or impact of time-based deterrence methods, especially in the home environment where many online students take exams.

The study is motivated by three research questions:

- *How much does performance on marketing concept tests differ between students who consult outside materials and those who do not?*
- *To what degree do distractions and time-on-task account for differences in student performance?*

- *Do students accurately self-report activity occurring during online tests?*

Data used for this study are collected in introductory marketing classes at a Midwest university. The key dependent variable is test performance (i.e., number of correct answers out of ten). ANCOVA identifies differences in test performance between students consulting outside sources and those students whom did not, controlling for distractions and time (actual and perceived). Detection techniques and statistical tests may corroborate the veracity of students' statements regarding outside sources (e.g., Beck 2014, Simpson & Yu 2012).

Early results are consistent with previous studies, confirming the relationships between performance, time and "cheating" (e.g., Boster & Shulman 2013). Students who do well on the test take longer to complete it. Students who do well on the test also admit to using outside help. However, non-response highlights the sensitivity of direct questioning, suggesting cheating is more prevalent. Finally, a significant portion of students are distracted while completing the test, which confounds the time & performance relationship and underscores a need to disentangle effects.

Limitations to the current study exist. An experimental design with random assignment is absent, and covariates associated with exam performance, such as GPA and college entrance exams, are not included (Brudvig, Zboja & Clark 2015, Haak et al 2011). In addition, asking knowledge questions in a class setting may operate as a demand characteristic, encouraging students to provide a correct answer, rather than merely complete the task as instructed in the study. Finally, difficulty factors are not accessed, and a good exam is both a measure of power and speed to assess performance (e.g., see Tindal & Fuchs 2000).

## References

Beck, V. (2014) Testing a model to predict online cheating—Much ado about nothing. *Active Learning in Higher Education*. 15 (1). pp. 65-75.

Boster, F. and Shulman, H. (2013) *Political knowledge test performance as a function of venue, time pressure, and performance norms*. Paper presented at International Communication Association, Annual Conference, London. Available from <http://www.tessexperiments.org/data/shulman047.html>. [Accessed: 30 April 2016]

Brudvig, S., Zboja, J and Clark, R. (2015) Using compressed time as a deterrent to cheating in online exams. In *Marketing Educators Association, Annual Conference*. Las Vegas. Denver, CO: MEA. pp. 107-109.

Cluskey Jr., G., Ehlen, C. and Raiborn, M. (2011) Thwarting online exam cheating without proctor supervision. *Journal of Academic and Business Ethics*. 4 (2). pp. 1-7.

Gilbert, G. (1991) How mental systems believe. *American Psychologist*. 46 (2). pp. 107-119.

Haak, D., HilleRisLambers, J., Pitre, E. and Freeman, S. (2011) Increased structure and active learning reduce the achievement gap in introductory biology. *Science*. 332. pp. 1213-1216.

Olivero, J. (2013) Frequency of student cheating on online test examinations. *National Social Science Technology Journal*. 3 (2). Available from [http://www.nssa.us/tech\\_journal/volume\\_3-2/vol3-2\\_article4.htm](http://www.nssa.us/tech_journal/volume_3-2/vol3-2_article4.htm). [Accessed: 29 November 2014]

Shulman, H. and Boster, F. (2014) Effect of test-taking venue and response format on political knowledge tests. *Communication Methods and Measures*. 8 (3). pp. 177-189.

Simpson, E. and Yu, K. (2012) Closer to the truth: Electronic records of academic dishonesty in an actual classroom setting. *Ethics & Behavior*. 22 (5). pp. 400-408.

Tindal, G. and Fuchs, L. (2000) *A summary of research on test changes: An empirical basis for defining accommodations*. Lexington, KY: Mid-South Regional Resource Center. Available from <http://files.eric.ed.gov/fulltext/ED442245.pdf>. [Accessed: 31 December 2014]

Trenholm, S. (2007) A review of cheating in fully asynchronous online courses: A math or fact-based course perspective. *Journal of Educational Technology Systems*. 35 (3). pp. 281-300.

**Keywords:** *academic dishonesty, student cheating, marketing education, online assessment, computer-based exams, satisficing*

**Relevance to Marketing Educators, Researchers, and Practitioners:** The results help inform considerations for design of online tests and assessments. Specifically, short-answer questions and knowledge-based questions are prone to cheating, especially online.

**Author Information:** Susan Brudvig is an Associate Professor of Business Administration at Indiana University East.

**TRACK: Marketing Education**