USING COMPRESSED TIME AS A DETERRENT TO CHEATING IN ONLINE EXAMS

Susan Brudvig, Indiana University, East
Jim Zboja, University of Tulsa
Ron Clark, Missouri State University

Abstract

The delivery of computer-based assessments, such as exams and quizzes, is growing. However, research suggests that students consult outside sources when completing exams and tests online. One deterrence method – limiting time for un-monitored exams – can be implemented in most learning management systems. Yet there is little is known about the performance consequence of using time as a deterrent. Our research question goes beyond understanding the relationship of completion time and average exam scores. Rather, we are interested in whether completion time differentially affects students, particularly high or lower performers on an exam. If there is a detrimental impact on exam performance, then faculty should cautiously use time as a deterrent. However, if there is no performance impact across the distribution of exam scores, then there is support for using test time as a deterrent to using outside help in un-monitored, computer-based exams.

Position Paper

The delivery of computer-mediated exams is growing. A google search quickly reveals that computer-based tests are a concern across universities and among educators. Whether the exam is for an online, blended or flipped class, computer-mediated technologies and web-based learning management systems have created a challenge for faculty: How do we create online exams that assess student learning without compromising academic integrity? This challenge is especially pertinent to objective-type knowledge exams that assess conceptual foundations of a discipline, a common practice in business classes such as introductory marketing.

There is considerable evidence that students are cheating in online tests and quizzes (e.g., Oliverio, 2013; Turner, 2005; Young, 2012). Before online testing became prevalent, Whitley (1998) reported that 43% of college students cheat on exams. In an online era, the estimate appears to be larger. In a recent survey university-level paralegal and business classes, 77% indicated that they used an open book during an online exam at least once (Jones, Blankenship, & Hollier, 2013). Even more recently, 96% of business students admitted to cheating in at least one instance while taking an online course (Gaskill, 2014).

Moreover, recent evidence suggests that students who complete online exams perform better when they are allowed to take longer to complete it. In a review of unmonitored online exams, Olivero (2011) found that students who take longer to complete unmonitored online exams also score higher. In tests of political knowledge, respondents who admitted to receiving outside help performed better than those who did not (Boster & Shulman, 2013). This recent literature is in sharp contrast to the literature of a decade or two ago, when authors generally concluded that there is there was not a clear performance benefit with extended exam time in university courses (e.g., Armitage, 1999; Tindal & Fuchs, 1999). However, the results of the latter studies are based on very different test-taking conditions – monitored pencil & paper tests, rather than unmonitored computer-based exams.

Concern for the integrity of online assessment has led to a variety of deterrence recommendations. Small testing windows, human proctors, video proctoring, answer shuffling, randomized pools, deep test banks, and browser lock-downs are among common recommendations (e.g., Michaels & Williams, 2013). More recently, there has been progress in testing forensics as a method of detecting online exam cheating (Simpson & Yu, 2012; Young, 2012). Many studies conclude that proctoring is the only definitive way to address integrity

concerns. However, it appears that few institutions require proctoring for fully online classes, perhaps because no deterrence method is without cost or administrative burden. Unfortunately, little is known about the effectiveness and consequences of using different deterrence methods in online testing.

Is a time limit on unmonitored, computer-based exams a reasonable deterrence method? If the exam is taken online in an un-proctored setting, students using outside help have a trade-off dilemma to resolve (Cluskey, Ehlen, & Raiborn, 2011). Of course, this technique is expected to be unpopular with students. However, what is unknown is the unintended consequences of time limits on computer-based exams, such as whether it would differentially advantage or disadvantage students. Our research question can be stated as the following:

Does the time students take to complete computer-based tests differently affect students with lower scores than students with higher scores?

In other words, is the relationship of completion time with exam performance different across levels of exam performance? Our question goes beyond understanding the conditional mean, or average exam score in computer-based exam. Instead, we are interested in a more comprehensive understanding of the effect of completion time on the range of test scores.

Results of the study could be used to determine the viability of using compressed test time as a deterrent in un-proctored online exams. For instance, if test time differentially advantages some students or disadvantages other students, then faculty should be cautious in the use of time as a deterrent. However, if time does not have a different impact, then using time as a deterrent remains a viable method.

References

Armitage, C. (1999). *Extended Time Limits on University Examinations* (Master's thesis). Retrieved from http://dspace.ucalgary.ca/bitstream/1880/24993/1/47990Armitage.pdf

Boster, F. J., & Shulman, H. C. (2013, June). Political knowledge test performance as a function of venue, time pressure, and performance norms. *International Communication Association, Annual Conference,* London. Retrieved from http://www.tessexperiments.org/data/shulmanpaper.pdf

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

Gaskill, M. C. (2014). *Cheating in Business Online Learning: Exploring Students' Motivation, Current Practices and Possible Solutions* (Doctoral dissertation). Retrieved from ProQuest. (UMI Number: 3611462).

Jones, I. S., Blankenship, D., & Hollier, G. (2013). Am I cheating? An analysis of online students' perceptions of their behaviors and attitudes. *Psychology Research, 3*(5), 261-269.

Michaels, T. B., & Williams, M. A. (2013). Student equity: discouraging cheating in online courses. *Administrative Issues Journal: Education, Practice and Research, 3*(2). Retrieved from http://www.swosu.edu/academics/aij/2013/v3i2/michael-williams.pdf

Morton, R. B., & Williams, K. C. (2010). *Experimental Political Science and the Study of Causality.* New York, NY: Cambridge University Press.

Olivero, J. M. (2013). Frequency of student cheating on online test examinations. *National Social Science Technology Journal 3*(2). Retrieved from http://www.nssa.us/tech_journal/volume_3-2/vol3-2_article4.htm

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

Tindal, G., & Fuchs, L. (1999). *A Summary of Research on Test Changes: An empirical Basis for Defining Accommodations*. Lexington, KY: Mid-South Regional Resource Center. Retrieved from http://files.eric.ed.gov/fulltext/ED442245.pdf

Turner, C. C. (2005). A new honesty for a new game: distinguishing cheating from learning in a web-based testing environment. *Journal of Political Science Education, 1*(2), 163-174.

Young, J. R. (2012). Online classes see cheating go high-tech. *The Chronicle of Higher Education, 58*(38). Retrieved from http://chronicle.com/article/Online-Classes-See-Cheating-Go/132093/4