Model Behavior

Re-Training Students Not To Cheat On Exams

A White Paper from Software Secure, Inc.

Higher education institutions may have a lot to learn from the Transportation Security Administration (TSA).

The lessons aren't about metal detectors in schools, affordable student dining plans or the latest in vending machine innovation. Instead, they must focus on behavior modification.

Among those who need it most.

This white paper will explore the methods in which behavior modification coupled with technology-enhanced proctoring can help prevent students from cheating on distance exams.

Software SECURE

Secure Testing. Anytime. Anywhere.

Summary

Higher education institutions may have a lot to learn from the Transportation Security Administration (TSA). The lessons aren't about metal detectors in schools, affordable student dining plans or the latest in vending machine innovation. Instead, they must focus on behavior modification. Among those who need it most. This white paper will explore the methods in which behavior modification coupled with technology-enhanced proctoring can help prevent students from cheating on distance exams.

Background

Think about it: The TSA, using a combination of technology, humans and protocols, screens airline passengers and regulates what they are allowed to bring aboard an airplane based on policies that stem from current national security policies. When the TSA first started, passengers needed to be aware of which items were allowed on planes, and apply these lessons to their day-to-day traveling lives. Fast-forward to today—while compliance ensures a (mostly) smooth entrance to the terminal, those passengers who violate the rules are given extra scrutiny and re-screened to ensure compliance. Airlines have already made great strides in automating much of the air travel experience. We can now check-in online, declare checked bags, and speed through the airport until we reach the security check. We're now able to limit the need for long lines at ticket counters by limiting the amount of help required by a human. The vast majority of travelers automatically put their 2 ounce liquid containers in a plastic quart size bag, removes their laptop, and takes off their shoes, sweater and belt, ensuring a mostly smooth entrance to the terminal.

On paper, this process catches policy violators—those who do it intentionally or unintentionally — and help security officials distinguish between an accidental violation and a legitimate threat. In practice, TSA procedures have served another purpose: They have prompted most passengers to change behavior so as to avoid the secondary screening. In the case of the TSA, everybody benefits from having passengers change their behaviors towards compliance. Fewer secondary screenings lead to shorter passenger wait time in line. They also free up TSA resources to spend more time focusing on passengers who pose a higher risk to aviation security (which, in turn, benefits the rest of us).

What's the link to higher education? When it comes to assessment, colleges and universities could benefit from behavior modification, too. In this market, the problem isn't about screening passengers, but instead about cheating on exams. Students must take the tests so educators can evaluate where students stand in relation to the curriculum and to each other.

Creating processes that reward honesty

There are many ways schools can try to prevent cheating, but in this changing education market and economy, schools must consider how their decisions impact their consumers, the students. Schools need to protect the integrity of their exams while maintaining their convenience—just like airport travel has to be both safe and accessible. Sure, schools could eliminate cheating by performing background checks on every student, frisking them before they enter a physical test center, and monitoring every second of every exam, ready to address irregularities the moment they arise. Instead, institutions should consider approaching the situation like the TSA, creating a process that rewards customers who behave the way it wants them to. Keep the honest students honest.

Technology-enhanced remote proctoring offers this type of solution for online test security. A combination of clearly articulated rules, automated monitoring, and human decision-makers (when necessary) has been found to significantly modify online test-taking behaviors. Students may be testing at home, on their own schedules and in their pajamas, but they are following the rules. At the same time, technology-enhanced remote proctoring is safeguarding the exam process entirely, assuring every test is administered with the highest level of academic integrity at every step of the way. And if they are not following the rules, a technology-enhanced remote proctoring solution will help to modify their behavior or bust them for cheating.

The Current Landscape in Higher Education

It's no secret that students cheat on exams. They cheat on proctored exams. They cheat on online tests. Heck, they even cheat on homework. According to *U.S. News and World Reports*, 75 percent of college students admitted to cheating. And however much formal statistics want us to believe students are cheating, they likely are cheating even more than that.

The Internet is rife with videos and other tutorials about how students can beat the system on exams. New technologies and mobile devices only make rule-breaking easier. A report from Common Sense Media included the results of a national poll conducted by the Benenson Strategy Group, which found that more than 35 percent of teens admitted to cheating with cell phones and the internet. The cheating involved texting answers to one another during tests, using notes and information stored on smartphones, and downloading papers from the internet to turn in as their own work[1].

Options for Higher Education to Address the Problem

Currently, there are three strategies for higher education institutions to address these issues:

1. In-person proctoring
2. human-based remote proctoring
3. technology-enhanced remote proctoring

---

[1] "From Texting to Plagiarism: How to Stop High-Tech Cheating," by John Waters, THE Journal. Sept. 9, 2013.
http://thejournal.com/Articles/2013/09/02/From-Texting-to-Plagiarism-How-to-Stop-High-Tech-Cheating.aspx

The first: **In-person proctoring.** By hiring people to monitor exams and requiring online students to show up at a physical location to take the test in person, institutions can, at the very least, control who is taking the exams and what students keep on their desks.

The use of physical proctors provides a decent level of control for the institution. If the exams are being administered on campus, proctors often are employees of the institution and therefore are under its direct control. This relationship with proctors can help an institution offer a uniform testing experience; any school can create particular exam policies (i.e. no hats are permitted to be worn by test-takers), and have confidence in the people hired to enforce them. By controlling proctors, institutions also are able to monitor compliance physically.

This element helps lead to the kind of behavior modification sought in a testing environment. Students will know before walking into the on-campus testing center what they are allowed to bring, and how to behave. It's probably plastered all over the walls of the room.

The downsides of this solution: Cost, for one (as proctors can be prohibitively expensive), not to mention the basic fact that it's impossible for one proctor to watch numerous students simultaneously and catch every incident of cheating. At schools that enroll thousands of online students each semester, in-person proctoring simply isn't scalable; there are only so many proctors one institution can hire. Even allowing your online student to nominate a proctor in their local area can be expensive and risky. You lose much of the quality control you may have with your on campus staff. Furthermore, requiring online students to travel to a physical location to take a test at a particular time is antithetical to the reason they are *online* students in the first place. The vast majority of these students usually tackle coursework late at night after a full day of work and time with their kids. Requiring them to change that routine is neither efficient nor convenient; it would be like the TSA requiring travelers from across New England only to use Boston's Logan International Airport, instead of allowing them to use smaller regional spots.

Another option for managing cheating in the online learning environment is to implement a **human-based remote proctoring solution**. This method generally hinges on a web cam and screen sharing software in the student's home to enable an institution to monitor what students actually do when they are taking an exam.

The benefits of this approach are obvious: Connecting groups of test-takers to a proctor through a web cam is more affordable than hiring human proctors for physical test centers.

It also is more convenient, since students can pick a date and time that's more convenient for them. What's more, human proctors on the back end mean real-live humans are watching how students behave to make sure the students are not doing anything suspicious (or worse). Perhaps the only difference: These proctors aren't watching all the time, but students don't know when they actually are being watched. This approach takes the traditional model and tries to create an online replica – one proctor watching a virtual room full of students.

Human-based remote proctoring isn't perfect, though. Unless a real-time remote proctor enforces each rule every time, the process likely will not create a uniform testing experience. And since an individual human remote proctor is looking at multiple screens, video and audio feeds, it is understandable if he or she only reacts to truly suspicious behavior—a reality that leaves marginally suspicious behaviors unchecked, as well as some potentially truly suspicious behavior ignored.

The third option is perhaps the most sensible of the triumvirate: **technology-enhanced remote proctoring**. This strategy mashes-up the best components of its predecessors, recording the entire test-taking session remotely via webcam, microphone and screen recording, but then flagging suspicious behaviors for closer inspection to determine if cheating has occurred.
The record-and-review nature of the procedure provides a bulletproof record of the student's exam session. What's more, by incorporating humans to review the entire exam after the fact, specific exam policies can be enforced uniformly, and educators or administrators can follow through with the appropriate communication about the reported violations with each student as the violations arise.

This approach has gained traction because it makes sense. It uses technology to ensure that each test-taker is monitored and treated identically. Once a recording of an entire test session is saved, it is reviewed and coded; next, if that student is flagged for suspicious behavior, the file is reviewed by a second proctor to verify and confirm that the integrity of the exam has been jeopardized. Technology comes back into play as students automatically are notified of their violations, reminded of the policy, and put on notice or warning. This solution ensures that every student and every exam is scrutinized on the same level playing field. This cause and effect generally produces prompt behavior modification, and facilitates the use of the most convenient testing process for those that don't cheat.

Laying out the ground rules

Before an institution can begin to modify a student's online test-taking tendencies, that college or university must define what types of behaviors are acceptable and what types of behaviors are not. Each exam must have a set of rules governing proper student behavior. Most of these rules should address suspicious behaviors that eventually could lead to cheating. Some questions to answer: Can online or physical material be accessed during the test? Can a student collaborate with others? Can the student leave the room during the exam? Can music be playing? Can cell phones be visible? Once a school has answered these questions, violating the resulting policies does not necessarily mean a student has cheated. Still, getting away with these types of actions might embolden a test-taker to cheat in the future.

Engineering behavior modification

Once an institution has put into place systems to monitor test-taking tendencies, a technology-enhanced remote proctoring system uses a trio of tools to enforce the policy, pursue and prosecute suspicious behavior, and modify behaviors that might be construed as suspicious or cheating.

Tool No. 1: Pre-Exam Advisory
Awareness is a key to changing behavior, and this first tool simply reminds the student exactly how the exam will be monitored. Before each exam, the very best systems will clearly and concisely inform students about exactly how the test-taking and proctoring interface works, what will be captured on video, and what will happen to the captured video once it is recorded. Many of these disclaimers explain that the cameras will record a full video feed, everything that happens on the student's desktop, as well as all audio throughout the entire duration of their exam session. They also note that the file is reviewed by multiple human proctors who compare what they see to the exam specific policies. The advisory then reminds students of the exam policies and consequences of violating those rules. In most cases, the disclaimers even include personalized information and messages from each instructor, just in case a professor wishes to

emphasize a particular aspect of the exam policy. Because technology-enhanced remote proctoring enforces policies automatically, the variability of these policies doesn't matter at all.

Tool No. 2: Post-Exam Notification

The best systems extend and amplify this commitment to transparency through the review cycle. If a student is found to have committed a policy violation, the system automatically sends that student an email that flags all witnessed unwanted behaviors. To make sure the offending student sees this missive, the notifications also are programmed into the system, and coded to pop-up the next time the student logs in to take another exam reminding them of what they did wrong last time, and encouraging them to modify their behavior this time. The automatic nature of these warnings and instructions is designed to serve as training; if students don't abide by policies there will be consequences. This helps to increase the inherent deterrent factor – reminding the student that proctors are watching, and paying close attention to their behavior. This direct and consistent communication to the test-taker is the biggest difference between technology-enhanced remote proctoring and both in-person proctoring and human-based proctoring.

Tool No. 3: Intelligence: Using the Proctoring Data

The third tool available in technology-enhanced remote proctoring is the data collected during a proctored exam session. In order to enforce policies—in order to punish cheaters and improve policies over time—this data must be evaluated and extrapolated to confirm that violations were the result of behavior and not the policies themselves. Punishment decisions are left up to institutions; schools are given a video of suspected cheating and a copy of the proctor report, and are encouraged to act on this material independently. Policy evaluations are more of a tandem effort; if human proctors reviewing the data feel that the incident in question was the result of poorly worded policies, they may recommend that the institution make a change. The consistent approach of a technology-enhanced remote proctoring model enables institutions to analyze both current performance and changes over time.

Why behavior modification works

Without question, fostering awareness among students of a technology-enhanced remote proctoring system is the key to behavior modification. This awareness starts with notifications that inform students when and how they have violated policies or behaved suspiciously. Later in the process, through follow-up messages with step-by-step advice on how students can avoid similar infractions in the future, the best systems aim to re-train students to behave appropriately. Like the TSA example, most people only forget to take their laptop out of their bag once, then it becomes routine. Ultimately, even if students aren't actively cheating, even if they're just engaging in "mere" policy violations, these notifications make them more aware of the potential consequences of deviation. Simply telling students they are being watched deters some of the most egregious cheating behaviors, minimizing the practice by those who do it because they think they can.

Beyond this, the combination of pre-exam advisories and stern reminders, along with technology to stop the student from accessing anything other than the test on their computer and post-exam warnings about not repeating suspicious behaviors further facilitates

deterrence. Statistics show that organizations that have implemented these steps have a cheating deterrence rate of about 97 percent.

From here, the math is simple—greater deterrence and less cheating leads to more compliance with institutional test-taking policies. Increased compliance represents behavior modification. Even a small reduction in the number of cheating incidents represents major change. When it comes to cheating, any victory is a big one.

Conclusion

At a time when many students will stop at nothing to succeed in school, eliminating cheating in the online learning environment is a tall order. Changing students' test-taking behaviors can help. Higher education institutions can engineer significant change by watching what students do during tests, reviewing their behaviors, and reporting or notifying students when they violate policies or act suspiciously. Technology-enhanced remote proctoring is a great way to accomplish these goals. This approach also can go a long way to ensure the integrity of education and protect the achievements of students performing honestly.

To this end, higher education has a lot to learn from the TSA. This organization was created to strengthen the security of the nation's transportation systems while ensuring the freedom of movement for people and commerce. Today, the agency continuously sets the standard for excellence in transportation security through its people, processes, technologies, and use of intelligence to drive operations. Put differently, the TSA maximizes security by leveraging people, process and technology into a solution that has sparked behavior modification on a broad scale. Institutions can manage similar change in the world of online tests; all they need to do is try.

About Software Secure

Software Secure is a leading provider of secure and cost-effective computer-based testing solutions for traditional and distance learning environments in higher education, K-12 and certification programs.

Award-Winning Solutions for Secure Online Testing

A provider of technology solutions that provide robust authentication and scalable security, institutions can now achieve secure, convenient exam integrity wherever or whenever exams are administered. Software Secure has won numerous industry awards for its Remote Proctor technology, including the 2011 CODiE Award in the Best Mobile Education category, a 2012 CODiE Finalist for Best Postsecondary Enterprise Solution and the 2012 Winner of eSchool Media's Reader's Choice Award for Remote Proctor NOW.

Why Software Secure

Software Secure's products were developed to meet the growing need in the marketplace to provide a technology approach for proctoring and securing the online exam environment, thereby helping institutions achieve greater efficiency, lower costs, provide a level playing field, and above all - deliver convenience without compromising exam integrity.

Secure Testing. Anytime. Anywhere.

Learn how Software Secure can help you.
For more information, visit our website
at **www.softwaresecure.com** or call:

617.340.6381