The New (and Old) News about Cheating for Distance Educators

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Abstract

Those in distance education are faced with a formidable challenge to ensure the identity of test takers and integrity of exam results, especially since students are physically removed from the classroom and distributed across the globe. This news digest will provide distance educators not only with a better understanding and awareness of issues surrounding cheating but also suggest solutions that might be adopted to help mitigate cheating in their programs. While technologies, including "braindump" Web sites and cell phones, are associated with the more common cheating behaviors today, the problem of cheating will always beleaguer distance educators; it is their responsibility to stay current on latest developments in the field of academic dishonesty, employ fitting interventions to mitigate cheating, and do everything possible to preserve the integrity of distance education.

Introduction

While many distance educators know they need to protect the integrity of their programs and prevent cheating whenever possible, few, if any, want to spend the necessary time or resources required to prevent and detect cheating. Confronting cheaters and spending resources on deterrents, detection, and discipline is not why distance educators go to work each day. However, this responsibility to stay current on old and new ways of cheating is receiving more attention at professional conferences as accreditation and legislative bodies codify expectations for distance education. For the past 10 years regional accrediting bodies have required programs to "ensure the integrity of student work," (Accreditation Handbook, 2003, p. 47) and on August 14, 2008 Congress reauthorized the Higher Education Act with this provision: "an institution that offers distance education to have processes through which the institution establishes that the student who registers in a distance education course or program *is the same student* who participates in and completes the program and receives the academic credit" (Carter, b, 2008, italics added for emphasis).

This article is based on information gathered from 142 world news articles and digested by Don Sorensen, vice president of marketing for Caveon Test Security Systems, in 21 *Cheating in the News* newsletters archived at http://www.caveon.com/resources_news.htm. Approximately 7,700 individuals subscribe to this free, biweekly e-mail newsletter digest.

The authors delimited findings from newsletters dated January 2008 to July 2009 even though the archive has e-newsletters back to February 13, 2004, for three reasons: (1) hyperlink accessibility to original news sources was less reliable any farther back than two years, (2) most current news on cheating is from the past year or two, and (3) to make the study more manageable.

Purpose

This article seeks to summarize findings relevant to the question "is it the same student" taken from over a hundred recent news articles about cheating. The synthesis of the news articles resulted in ten topics that all begin with the word "how": (1) how much media coverage cheating is receiving; (2) how much cheating exists—and is

increasing; (3) how cheating occurs in all institutional sectors: K-12, higher education, business, and government; (4) how an academic field and business niche for academic dishonesty has emerged; (5) how new terminology is used to describe cheating nuances; (6) how assorted are the types of cheaters; (7) how students and test makers react when cheating occurs; (8) how varied are the institutional consequences for cheating; (9) how students are cheating; and (10) how institutions are combating cheating.

How much media coverage cheating is receiving

The newsletter author, Don Sorensen, indicated that for every 10 articles his news aggregator gathered from across the Web using keyword terms "cheating," "test fraud," "exam fraud," "exam cheating," "test cheating," and "certification cheating" he selected and reported on one. If the ten-to-one reporting ratio is extrapolated to 142 news articles approximately 1,420 (142 X 10) news articles appeared on cheating during the past 18 month period alone.

Frankly, it is surprising to discover that *Cheating in the News* even exists and that it digests just a few of the hundreds of news articles written about cheating each year. Of the 142 articles extant at the time of this writing 88 were from the United States and 54 from international sources. Furthermore, these news articles appeared in some of the more notable newspapers. In descending order of frequency, those media outlets from which three or more articles were extracted are listed with number of instances parenthetically noted: *Network World* (8), *China View* (7), *Boston Globe* (6), *Business Week* (5), *Wall Street Journal* (4), *U.S. News and World Report* (3), *New York Times* (3), *Dallas Morning News* (3), and *eSchool News* (3).

How much cheating exists—and is increasing

Nearly every other issue of *Cheating in the News* included another study about how much cheating occurs and in many instances how it is increasing. While experimental designs, research criteria and assumptions, sample sizes, and individuals studied were different, they found widespread cheating.

The most significant studies identified in the news follow:

- School Library Journal disclosed that "A whopping 95 percent of high school students say they've cheated during the course of their education . . ." (Oleck, 2008).
- Another national survey covering 2001 to 2008 revealed that "94 percent admitted to cheating in some form or another. Sixty-five percent of students confessed to cheating on a test; more than half admitted to plagiarism. . . ." ("Classroom Fraud," 2008).
- The *U.S. News and World Report* (June 23, 2009) reported that "more than one third of teens with cellphones admit to having stored information on them to look at during a test or texting friends about answers". As disturbing as this finding is, the same study also reported that only 3 percent of parents "believe their own teen is using a cellphone to cheat" even though 75 percent of them assumed that cheating was taking place at their children's school (Miners, 2009).
- ABC News ran a story that cited results from a national survey conducted by Rutgers' Management Education Center in which "an estimated two-thirds of all high school students admit to 'serious' academic cheating..." (James, 2008).
- The Josephson Institute in Los Angeles conducted its own national survey by randomly selecting 100 different high schools in 2008 from which students were asked if they had cheated or plagiarized; a total of 64 percent of the students (up from 60 percent in 2006) said they cheated on a test and 36 percent (up from 33 percent in 2006) had plagiarized an assignment (Ramírez, 2008).
- A *Christian Science Monitor* article by Michael Laser, author *Cheaters*, written for teenagers stated: "According to one survey, 60 percent of high school students admitted to cheating on a test over the past year. We're swimming in a sea of cheating . . ." (Laser, 2008).
- Research from Pennsylvania State, Rutgers, and Washington State universities determined that "56 percent of the graduate business students and 47 percent of the nonbusiness graduate students admitted to cheating one or more times in the past year" ("College Cheating", 2008).
- A major technology company conducted a study that revealed "thousands of people worldwide are cheating on certification exams for coveted jobs" (Baron, 2008). Another article considered stolen certification tests an "epidemic" ("Stolen Tests," 2008).
- One of Cambodia's major newspapers reported that "rampant cheating at high school exams this year has forced the government to investigate the widespread practice of students paying their teachers for test

- answers" ("Exam Cheats," 2008).
- In South Wales, a news source revealed that "more than 800 students have been caught cheating at universities in South Wales since 2005 . . . " (Sharkey, 2008).
- In Scottish schools, cheating had risen by 21 percent during a one-year period from 2006 to 2007 ("Cheating in Scottish," 2008).
- Finally, authorities in China caught over 2,000 cheaters out of 10.2 million test takers who took the countrywide college entrance exam earlier in 2009 (Yan, 2009).

Cheating is more prevalent than most realize, especially to parents (97 %) who do not realize their own children may be part of the one-third who use cell phones to cheat. While the results of some of these studies may contradict numbers and percentages, they all tell the same story: cheating is prevalent and on the rise.

How cheating occurs in all institutional sectors: K-12, higher education, business, and government

Cheating is a worldwide problem for not only K–12 and higher education, but also for governments and corporations. Some typical examples of cheating across these different settings follow:

- *K*–12—"Students whose Advanced Placement tests were thrown out because of irregularities and cheating at a Mission Hills testing site will have to retake the tests, a judge ordered Wednesday," ("OC Court," 2008);
- *higher education*—"Florida State University's athletic department is on probation for four years as punishment for a cheating scandal," (Hitchcock, 2008);
- *corporate*—"Don't judge a developer by his or her certifications. Cheaters are coordinated, and the answers to exams are easily located on the Web," (Worthington, 2009); and
- government—"D.C. officials are investigating allegations that rescue workers cheated on a certification exam for emergency medical technicians at a Maryland testing facility, . . ." (C. Williams, 2009) and "a dozen State Highway Patrol troopers, including 11 from the Canton post, have been fired for cheating on a certification test for drunken-driving detection devices, (Martin, 2008).

How an academic field and business niche for academic dishonesty has emerged

Cheating is now the subject of academic research, and preventing cheating the mission of companies. Caveon Test Security, the company that sponsors and creates the newsletter *Cheating in the News* states on its Web site that "Caveon is the first test-security firm to offer protection against test piracy and cheating. Using proprietary detection services, we identify breaches, offer remediation services to halt and prosecute abuses of sensitive test information, and provide prevention services to help secure your testing programs from further compromise" (http://www.caveon.com/services/services.htm). While it considers itself the first test security firm in existence, many others also provide services to prevent and identify cheating.

One of the news articles reported on the academic work of Dr. Donald McCabe, a professor from Rutgers University who "has studied cheating and plagiarism among undergraduate and graduate business students"; he concluded that penalties should match the intent of the cheater but also acknowledges it is a "difficult position [to evaluate] the individual motivation of each student" (Mintz, 2008). Another article introduced Dr. Jason Stephens, an assistant professor of educational technology at the University of Connecticut, as "a rising star in the field of academic dishonesty" who conducted a national survey on cheating and who also "thinks he has an answer for what he describes as a cheating epidemic" ("Researcher Studies," 2008). And in yet another the reader learns about interventions set forth to prevent cheating in the state of Texas by a Canadian professor, Dr. George Wesolowsky, "who studies cheating" (Hacker, 2008). Finally, a university newspaper announced that David Callahan, author of the book *The Cheating Culture*, would speak to faculty and students (de Stefano, 2008).

How new terminology is used to describe cheating nuances

These news articles introduced unfamiliar cheating jargon to some of the authors. Terms include "invigilator" for a test proctor ("Student Opens Fire," 2008), "organized cheating" for a group of cheaters who conspire to cheat together ("Law to Curb Exam" 2008), and "leaked" to describe answers and papers made available to students through a test authority or educator before the test is administered (Seuraj, 2009).

However, the most frequently used unfamiliar term was "braindump" (R. Williams, 2008; "Stolen Tests," 2008). To truly understand the cheating industry it is necessary to know the term "braindump." They are active businesses, typically managed online, that provide students with studying services; they often guarantee candidates passing scores. Many study Web sites, such as Cramster and Course Hero, are developed to help students study (Chaker, 2009). However, debate continues over whether or not these sites, or aspects of them, enable cheating. Questions arise over students' accessibility to previous tests and questions, homework solutions to textbooks assignments, step-by-step solutions, and graded essays. Subscription to these braindump sites is increasing and, simultaneously, so is concern by test developers over copyright infringements.

Some professors and teachers disagree with such sites' functions and purposes while other educators use them as learning tools for themselves as well as their students ("Two Teachers," 2009). One such online resource that straddles the line between resourceful study tool and braindump is the Facebook application "Let's Cram." In an article concerning the application, Karl Walter states, "Education chiefs have slammed the idea [Let's Cram] as dangerous, as children using the application get questions answered for them, resulting in them not learning anything" (Walderman, 2009). Some universities have regulated the material and resources employed on individual sites and yet business for such sites is profitable and more students are using them.

Jargon is also used to describe various cheaters. There are several terms used to describe a cheater's cheater who stands in for a student scheduled for the examination: proxy (Rafter, 2008), impersonator, non available candidate (Ozordi, 2009), or gunmen and hired hands ("Stolen Tests," 2008). It is evident from the cheating jargon that cheaters are more than just the students who should be taking the test—hence, the question asked of distance educators by many: "is it the same student?"

How assorted are the types of cheaters

It would be narrow-minded to think that students are the only ones cheating. Granted, a large portion of cheaters consists primarily of students and their peers copying papers, texting, or using questionable online resources, but the percentage of cases that involve a teacher, business, potential employee, employer, test authority, or parent is also significant. Interestingly, the majority of entities reporting such situations occurred outside of the United States, especially where school exams and tests have a much greater bearing on college placement and career employment. In China, for example, where student population is high and acceptance to college greatly affects an individual's future career, it is a matter of utmost importance that students perform well on their exams.

An article from China's *People's Daily Online*, concerned two teachers and 29 students using technological cheating devices during the national college entrance examination. One of the teachers, Liu Yanhua, confessed that for a fee, she would help children cheat ("Two Teachers," 2009). It was not disclosed whether the Web site from which Liu obtained the cheating devices was specifically advertised and setup to encourage cheating. However, other articles from the Caveon Archives report selling cheating devices and techniques as a lucrative business plan (Wang, 2008). Reports have emerged of large organizations being formed involving complex plans. Another article reported a city official who helped 27 students cheat by giving "commission fees" to police officers (Gao, 2008).

News articles from countries that place high priority on school exams for university placement also reported a higher number of types of people involved in cheating. This is congruent with a specific study done on cheating that reported honor students and high-GPA students as more likely to cheat than average and struggling students because the pressure to succeed, compete, and perform is greater (Berry, 2009). This would also explain why quite a few articles concerning graduate school tests, such as GMAT, reported a high number of cheaters. A survey of more than 200,000 covering a 19-year period concluded that "those in business school cheat more than their peers in other disciplines" (Hechinger, 2008). Many graduate students will hire proxies, who have made a business of impersonating students, to sit the exams. The Wall Street Journal reported on business graduates paying \$3,000 each for a proxy test-taker.

How students and test makers react when cheating occurs

Another surprising finding from reviewing these news articles was how the accused, and those accusing, reacted. The news stories reveal how canceled scores, lawsuits, riots, gunplay, and more have resulted. Some reactions follow:

- In Bihar (eastern India), hundreds of law students "turned violent, shouted slogans and boycotted the exam" when "they were not allowed to carry books and mobile phones inside the examination centre" ("Denied Right," 2008), and in Karachi, Pakistan, an "MA student drew a pistol and fired after an invigilator caught him cheating during an examination" ("Student Opens Fire," 2008).
- Another common reaction was lawsuits. A high school student at Hanover High School in New Hampshire "su[ed] the police and school officials of violating federal laws protecting students' privacy" as a result of being caught cheating (Jamison, 2008); another high school student at Jeffersonville High School in Indiana sued the school district to allow her to still graduate even though her passing score had been voided for cheating. Microsoft sued a company in Pakistan for illegally copying and distributing its certification exams across 69 different Web sites (Rafter, 2008); 13 dental students from UCLA sued the American Dental Association for voiding their scores on an earlier exam for helping other students take the exam (Genova, 2008).
- Sadly, a few incidents also included students harming themselves after being caught or being accused of cheating ("Caught Copying," 2009; Chen, 2008).
- A common reaction by testmakers to help protect the integrity of their exams is to void scores of cheaters. Educational Testing Services, who owns Advancement Placement (AP) exams, "voided . . . [scores for] about 400 students" at a high school in Orange County, California (Mehta, 2008), and for another 42 students at Trabuco Hills High School in California ("OC Court," 2008); the ACT Testing Agency may do the same for a group of students who are accused of cheating on the ACT exam at a Los Angeles high school ("Cheating on ACT," 2008).

While some cheaters acknowledge their cheating, many do not, but in those stories digested in *Cheating in the News* it was evident that the reactions were varied and significant.

How varied are the institutional consequences for cheating

In these news articles the consequences for cheating ranged from nothing to imprisonment with probation, expulsion, fines, and cancelled scores in between. A no-consequence example was reported by Gulfnews.com wherein a student disclosed that "many of [his] colleagues just copy and paste data from the internet for their projects and assignments and what's worse, some teachers realise [sic] this but choose to turn a blind eye" (Najami, 2009). An imprisonment example came from China where parents and teachers involved in helping students cheat were sentenced up to three years for helping students cheat (Branigan, 2009).

Two contrasting instances involving cheating students and the judiciary were cited elsewhere: (1) two university students in the Caribbean who used a leaked exam to prepare for the Caribbean Advanced Proficiency Test received a \$1000 fine and were sentenced to six-months in prison (Seuraj, 2009); and (2) in New Delhi a local magistrate determined that those university students brought before the court for cheating were too young to imprison and, hence, "forgave" them. (The judge did reprimand the parents for poor rearing and the students were debarred from the institution but allowed to enroll at another institution [Saxena, 2009]).

Many are the instances of consequences from these articles where consequences were somewhere between the two extremes of imprisonment and nothing: (1) Philadelphia Temple University's academic honor code allows professors to use their own discretion when dealing with cheating students (Berry, 2009) and, (2) one student was disqualified from the GMAT after bragging online how a site helped him cheat. Business school administrators are evaluating students' use of the site in order to determine whether they also will be disqualified and possibly banned from taking the exam in the future (Levy & Lawyue, 2008).

How students are cheating

While the prevalence of cheating was the most surprising finding from this study, the methods of cheating were next most surprising. The news articles made it evident that the newest methods of cheating utilize technologies but that old ways are still commonplace and widely popular. The most common method of cheating in these news articles was the use of "braindumps" which was defined earlier in the terminology section.

Now, the most current cheating methods represented in the news articles:

• Mobile phones and iPods. Students record answers and crib notes on their phones, text each other answers to questions with their phones, and then take photographs of exams and transmit them to others using

their phones. One country even banned students wearing mobile phone wristwatches from examination centers because of an earlier cheating incident ("Watch Out," 2008). The most recent newsletter received at the time of this writing featured two separate studies about the increasing use of cell phones to cheat: one study (Miners, 2009) said a third of teens use cell phones to cheat and the other study (Stansbury, 2009) said 52 percent admitted using their cell phone to cheat in one way or another. (See also "Denied 'right', 2008"; Guodong, 2008; "Prairie View," 2008; White, 2009; Prego, 2009.)

- Braindumps. One article may have said it best: "Braindumps come in many styles, all of which are variations on the questions and answers that have been stolen from the actual exams. When we started warning people about braindumps, they were merely questions and answers or Q&A with explanations. They have since evolved into a much more complex and almost convincing form that many individuals would find hard to believe are braindumps" (R. Williams, 2008). One article reported that a professor from Indiana State University learned that her test questions were for sale on e-Bay (Loughlin, 2008). (See also "University discovers," 2008; R. Williams, 2008; Lavelle, L. 2008; Veroff, 2008; Muller, R. 2008; Mintz, P. 2008; Jones, 2008; Carter, a 2008; Sharkey, 2008; Musthaler, 2008, A; Brodkin, 2008; Augustin, 2008; Macsai, 2008; Nadami, 2009; Worthington, 2009; Chaker, 2009; Foderaro, 2009)
- Organized cheating. Whenever a group of collaborate to cheat by taking a test for hire or making other illegal arrangements, e.g., bribery, robbery, it may be considered "organized cheating." A news story from India reported that a "cheating mafia" had infiltrated about 400 schools, controlled proctors, and were able to do a number of other things necessary to "make sure you pass." Another cheating ring was exposed in Peru involving 13 people who charged students \$1,200 for help cheating on the university entrance exam (Ruiz, 2008). A news article in Cambodia revealed that some students bribe their teachers with money for answers to tests ("Exam cheats force," 2008); and one in Moscow revealed the same form of bribery (about \$200 to have a grade rigged on a final exam) at the regional university (Malpas, 2008).
- Wireless earpieces and high-tech radio transmitters. In Great Britian a news source revealed that "Bluetooth technology [is] being used to cheat during British citizenship exams" and that "Test centres have been cautioned about the use of hi-tech equipment concealed under headphones" (Quinn, 2008); in China a similar technique was used by a "ring [that] involved at least 33 people" (Hongjiang, 2008).
- Traditional methods. One news article reported "the use of notes" as still a common method ("Cheating in Scottish," 2008); sharing copies of a test with colleagues ("12 in Ohio," 2008); turning a soda bottle wrapper into a cheat sheet ("YouTube tests," 2008); "long-sleeved shirt method" (Najami, 2009); "1. writing on tables before the examination, 2. writing on thighs (female pupils), . . . 3. writing on small sticky white papers. Female pupils hide them in their headscarves, sleeves, . . . they are also hidden in calculators, caps of pens. 4. Writing on hands, fingers or palms. 5. Get shops to type answers on small sheets of paper which are hidden easily. 6. Keeping torn portions from chapters under the answer sheet" (Najami, 2009).
- HT cheat sites. Some news stories revealed online sources for students to access that teach students how to cheat. Three stories covered sources for learning how to cheat: one using YouTube, ("YouTube tests," 2008); another a Social Networking Site, (Goens, 2008); and the last using Facebook, (Walderman, 2009).

How institutions are combating cheating

So how much money is an institution willing to spend to prevent cheating? The U.S. Army budgeted six million dollars to employ procedures and devices to help mitigate cheating among the country's soldiers (Bender, 2008). Is that enough money to prevent cheating, especially when one cheating company alone "grosses an estimated ten million annually" (Baron, 2008)? In some sectors and parts of the world cheating is not only a common practice but also a big business.

This section will share some of the interventions used by institutions to mitigate cheating—and not all of them cost millions. While some of the methods employ devices others use procedures and policies and some use both types. Institutions and policymakers choose from a variety of methods that best fit philosophy and circumstance.

• The "Honor System". A high school principal from New Jersey said: "If you have a culture in your school where . . . there is an expectation that students are honest about their academic achievements, where students and the administration promote it, I think you decrease the opportunities for students to cheat" (Miners, 2009). In Texas testing officials introduced a new approach to mitigate cheating by inviting students to sign pledges that they will not cheat along with other measures including "random monitors and seating charts" (Hacker, 2008) "Experts also say that if teachers hold open discussions, issue warnings, and present guidelines for taking tests and writing papers, kids will be more hesitant about

- cheating" (Miners, 2009) (See also "Destined to cheat," 2008; Rivera, 2008; Loughlin, 2008; Warnock, 2008; Kwoll, 2009; Zetter, 2009; White, 2009; Wood, 2009).
- Banning/controlling electronic devices. On the FCAT test in Florida "a new statewide policy requires school administrators to throw out a kid's exam if an electronic device is 'within reach.' While the rules in previous years gave principals and proctors some leeway in their punishment, 'concerns based on recent security violations' have forced the state to adopt the zero-tolerance procedure . . ." ("No Phones," 2008).
- Photo and/or government identification. Prospective graduate students taking the Graduate Record Examinations (GRE) must show government-issued identification (Hechinger, 2008). At some large corporations, "those taking tests will have their photos taken and digitally stored with their test scores in a database, allowing potential employers to match results with the photo. Pearson VUE and Cisco officials declined to reveal more details, but added they will also deploy undercover test takers" (Baron, 2008).
- Fingerprinting and palm vein scanning. Some of the larger professional admission tests now require fingerprints to validate the identity of test takers. The Medical College Admission Test (MCAT) uses digital fingerprinting and the Law School Admission Test (LSAT) uses more traditional fingerprinting methods (Hechinger, 2008). Those who take the Graduate Management Admission Test (GMAT) will be required to "undergo a 'palm vein' scan, which takes an infrared picture of the blood coursing through their hands. The image—which resembles a highway interchange in a major city—is unique to every individual. The scans are used widely in Japan among users of automated teller machines but only recently have appeared in the U.S." (Hechinger, 2008).
- Commercial security systems. Some sophisticated systems provided by companies now integrate a number of test security services. Four of the systems identified in these readings follow: (1) Securexam Remote Proctor, "it's about the size of a large paperweight and plugs into a standard port on a home computer. The pedestal includes a groove for scanning fingerprints, a tiny microphone, and a camera. The sphere reflects a 360-degree view around the test taker, which the camera picks up. Students are recorded during exams, and anything suspicious—such as someone else's presence or voice in the room—is flagged" (Foster, 2008); (2) "World Campus, the online arm of the Pennsylvania State University system, is testing another system called Webassessor. It uses proctors, Web cameras, and software that recognizes students' typing styles, such as their speed and whether they pause between certain letters. Students purchase the cameras for \$50 to \$80 apiece. They allow proctors to view a student's face, keyboard, and workspace" (Foster, 2008); (3) The Phoenix-based provider of the system, Kryterion Inc., employs proctors who remotely observe and listen to as many as 50 students at a time. If the keystroke pattern of a student who is taking an exam does not match the one he or she provided at registration, or if the image of a student taking an exam does not match a digital photograph that the student provided at enrollment, then the student cannot start the exam. A proctor can also stop a student who is acting suspiciously from completing an exam. Students must have a broadband connection to use the service" (Foster, 2008). In China "video cameras will be installed in almost 60,000 test centers around the country to prevent students cheating in the national college entrance examination, ... "("Exam Cheats," 2009) and (4) "Several other universities are forming partnerships with Acxiom Corporation. The company's system relies on test takers' answering detailed, personal "challenge" questions. Acxiom, based in Little Rock, Ark., gathers information from a variety of databases, including criminal files and property records. The company uses the data to ask students questions, such as streets they lived on, house numbers, and previous employers. If students answer the questions correctly, they proceed to the exams" (Foster, 2008): (5) In the corporate world of certification CISCO has now made available to companies who hire their certified engineers a simulation software that retests applicants at the company site to validate further the applicant's qualifications (Duffy, 2008).
- Cheat-resistant laptops. "At the University of Central Florida, for instance, business students now take their tests on cheat-resistant computers in a supersecure testing center. UCF students report much less cheating than students at other campuses. 'We've scared the living daylights out of them,' explains Taylor Ellis, associate dean for undergraduate programs and technology at UCF's college of business" (Miners, 2009). A very similar kind of approach is used in Norway where students take tests on laptops that restrict access to just the exam (Nickson, 2009).
- Lawsuits. In the corporate sector of certification testing big companies like Microsoft, Cisco, and others are now taking companies who offer "braindump" services and web sites to court. The lawsuits usually involve copyright law and though expensive, have met with success in holding these companies accountable and closing some of them (Guodong, 2008; Veroff, 2008) "GMAC, the not-for-profit body that owns the exam, announced in June that it had won a court order to shut down Scoretop, a website it had accused of improperly featuring questions still being used in the computerised exam" (Jones, 2008).
- Computer-adaptive testing and randomized testing. One of the most sophisticated but promising test security devices, not even necessarily developed with test security in mind, are large-scale exams that are

unique to each test taker. The exams are created in real time using statistical models that serve up different questions based on student ability measured on responses to previous questions. "Making the most of the latest advances in performance-based and computerized adaptive testing, and by following strong security procedures, Cisco makes sure that its certification holders have mastered the skills needed in today's workplace" ("Cisco Certified," 2008).. Randomization of items on tests is similar to unique items being served up on a computer adaptive exam but different in that no statistical sequence is utilized to select the next item. However, randomized items on a test can easily be delivered, even on a smaller scale, and not cost the institution as much to develop and administer. This method appears to be one that the U.S. Army is considering, according to another news article: "The new measures—including randomized test questions . . . are intended to combat the proliferation of Internet 'sham school' sites that help students cheat" (Bender, 2008).

• Statistical analysis. Some researchers and companies are beginning to introduce sophisticated statistical and mathematical models that help identify potential cheaters using "computer analysis to compare one candidate's exam answers with the typical behavior of other candidates' responses. . . . We now have techniques which can give a strong statistical indication of whether someone has cheated or not" ("Uni has ways," 2008). The company that issues *Cheating in the News* also uses statistical analysis modeling: "Caveon would use the science of item response theory to calculate the probabilities that two people worked together or didn't take the test independently. . . . Microsoft has said . . . that forensics analysis is so accurate that it will be used as the sole evidence for enforcement actions, including a permanent ban from certification" (Musthaler, 2008).

Conclusion

Unfortunately, cheating is pervasive and on the rise throughout the world. Those in distance education are faced with a formidable challenge to ensure the identity of test takers and integrity of exam results, especially since students are physically removed from the classroom and distributed across the globe. This news digest will provide distance educators not only with a better understanding and awareness of issues surrounding cheating but also suggest solutions that might be adopted to help mitigate cheating in their programs. While technologies, including "braindump" Web sites and cell phones, are the more common cheating behaviors today, the problem of cheating will always beleaguer distance educators; it is their responsibility to stay current on latest developments in the field of academic dishonesty, employ fitting interventions to mitigate cheating, and do everything possible to preserve the integrity of distance education.

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