

# *Student Identity and Authentication in Distance Education: A Primer for Distance Learning Administrators*

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## **INTRODUCTION**

**S**ince the signing of the Higher Education Opportunity Act (HEOA) in August 2008, providers of distance education courses and programs have been looking into procedures and technologies that will satisfy the accrediting agencies responsible for enforcing the law. Continuing education administrators are at the forefront because of the pervasiveness of distance learning in their programs. In order to make the most informed decisions and choose the most appropriate solutions for an institution, it is useful to understand the history of the legislation, and important to understand fully the issues associated with authentication.

## **HISTORICAL CONTEXT OF THE ACT**

The HEOA, which is a reauthorization of the 1965 Higher Education Act (HEA), primarily regulates Title IV federal financial aid funding and accountability for higher education, including Pell grants and Stafford loans. This most recent legislation contains new language that has attracted a great deal of attention from the distance learning community, public and private alike. Under the section regarding accreditation and program integrity, the

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language specifically states:

The [accrediting] agency or association requires an institution that offers distance education or correspondence education to have processes through which the institution establishes that the student who registers in a distance education or correspondence education course or program is the same student who participates in and completes the program and receives the academic credit.

### **REGULATING FRAUD IN CORRESPONDENCE EDUCATION**

A 1992 amendment of the HEA included a provision that limited the amount of federal financial aid institutions could receive if the institution offered more than 50 percent of its courses or had more than 50 percent of its students through distance education. Known as the “50 percent rule,” this part of the act reflected the concern that Title IV financial aid programs—including Stafford loans—had been subjected to fraud and abuse by institutions and individuals seeking to profit from the programs. A Senate report stated that there had been significant abuse reported, particularly within short-term correspondence programs where no degree was awarded. Legislators believed the remedy was to eliminate student aid for any correspondence course that was not part of an associate’s or bachelor’s degree program. The amendment prohibited aid for any institution offering more than 50 percent of its courses through correspondence courses or enrolled more than 50 percent of its students in correspondence programs.

Recognizing the political climate of 1992, during which the nation had its first Democratic president in 12 years, is important to understanding how the regulation pendulum swings depending on the political environment. Concerned with abuse of taxpayer monies, the Democratic administration wanted tighter financial regulatory controls to clean up occurrences of fraud in correspondence schools. While well intentioned, the 50 percent rule put access to education out of reach for many Americans at about the same time that online education began to replace correspondence education in the forefront of distance learning. The continuing education industry—including the for-profit virtual universities—viewed it as too restrictive to meet student demand for anytime, anyplace learning adequately.

## DEREGULATION AND THE RISE OF ONLINE LEARNING

As online learning and virtual universities grew into viable enterprises for higher education, many burgeoning private educational interests, including Western Governor's University, Capella University, and the Sloan Consortium, began lobbying Congress to repeal the 50 percent rule. By 1998, organizations and institutions with online interests negotiated a federal distance education demonstration program by which institutions offering online degrees could request a waiver of the rule. The pilot program began with 24 colleges, including nine for-profit private, five for-profit publicly traded, seven private nonprofit, four public universities, one public system, and three consortia. Four of the institutions eventually left the program voluntarily and one institution was disqualified for abusing federal aid funds (Lederman).

To participate in the demonstration program and receive a waiver from the 50 percent rule, institutional participants were required to demonstrate their programs' accountability and legitimacy by monitoring enrollment growth, student retention, and graduation rates. Most importantly, in the 1998 HEOA, demonstration program participants were required to document "the number and types of students receiving assistance under this title for instruction leading to a recognized certificate ... including the progress of such students," and the increase in participation in the certificate or degree programs. During the course of the seven-year program, the demand for 100 percent online learning at universities across the country was growing, and institutions did not have a way to respond within the limits of the rule.

In 2002, as the Republican-led Congress worked on the next reauthorization of the HEA, hearings were held to evaluate the success of the demonstration program. The General Accounting Office (GAO) cautioned legislators against relaxing regulations, testifying in a hearing before the Senate Committee on Health, Education, Labor, and Pensions that "the biggest challenge is how to help access to this form of higher education while still preventing fraud in the Title IV programs." During the session, the chancellor of Capella University noted that "the problems with fraud were vocational and correspondence schools, and that unlike them, online schools are accredited degree-granting institutions." Summarizing the goal of the hearing, Senator Paul Wellstone added, "the goal of government aid and oversight should be programs of good quality without onerous government regulations."

In a 2004 report on the state of distance-education accreditation oversight and federal aid, the GAO indicated that stringent accountability and oversight were needed to ensure that student-learning outcomes were being met. The GAO insisted that universities work with accrediting agencies to develop best practices and procedures to monitor student retention and graduation in distance education programs.

After three years of hearings, reports, and lobbying efforts from on-line educators, the Department of Education and legislators evaluated the demonstration program and deemed it to be a success. The financial aid restrictions were lifted, allowing institutions to offer 100 percent online and correspondence degree programs.

Skeptics continued to question the ability of the government to police potential fraud and abuse from the proliferation of online learning. The GAO had sought greater accountability and reporting measures if the 50 percent rule were lifted and some public, nonprofit universities were opposed to a complete reversal of the law (Dillon). Questioning the political motives behind a change that was seen as benefitting for-profit higher education institutions, a New York Times columnist noted “the [demonstration program] provision is just one sign of how an industry that once had a dubious reputation has gained new influence, with well-connected friends in the government and many Congressional Republicans sympathetic to their entrepreneurial ethic” (Dillon). While some saw the deregulation of financial aid pertaining to online learning as ripe for abuse and profiteering, the distance learning community embraced the change that opened the opportunity to serve millions of students who otherwise would not have the ability to earn a college degree.

### **A NEW ERA OF ACCOUNTABILITY**

In 2008 Congress passed the Higher Education Opportunity Act after struggling through years of drafts. By the time it passed under a now Democratic-controlled Congress, new language in the act reintroduced accountability, enforcing what the GAO had earlier recommended regarding oversight of distance education programs. By requiring accreditation agencies to oversee more closely the operation of distance education programs, institutions were now asked to have in place “processes by which it establishes that the student who registers in a distance education course or program is the same student who participates, completes academic work, and receives academic credit.”

Technically the law only requires accreditors to evaluate and monitor distance education courses and programs within the institutions that they accredit. The effect on distance learning programs is that institutions are now required to produce evidence that they are able to ensure that their student authentication and identity processes are intact and effective. Providing this evidence can include—but not be limited to—secure logins with passwords and user IDs. The overarching concern of student authentication and identity management is much larger than distance education; it is an issue that our institutions are struggling with as state and federal laws protecting data privacy in a technology-driven environment become stricter.

### **UNDERSTANDING IDENTITY MANAGEMENT IN HIGHER EDUCATION**

In order to understand fully the new law and what it means to ensure student authentication and identity in online learning, it is important to first understand identity management, which encompasses four sequential aspects: identification, authentication, authorization, and accountability. The act specifies only identification and authentication for distance education.

The process of student identification means assigning a unique “identifier” to an individual user that distinguishes one person from another. On most campuses this is usually the user ID, which is specific to the individual and can be changed at will by the user, or when prompted by the campus IT administrator. Today, it would be unusual to find a US college or university that is not utilizing a secure login identification for campus registration, email, grades, or for entry into learning management systems.

Authentication, the second step in the identity management process, ensures that the person using the identification code is the person to whom that code is assigned. Authentication can involve one or more of the following: something the person knows (password), something the person carries (identification card) or something about the person (physical characteristics like fingerprint or iris scan).

This is the crucial step that will require close evaluation by our institutions to ensure that the student who is completing the coursework is actually the same student who receives the credit. For now, the language in the HEOA indicates that the measures already in place at most institutions will suffice. As new technologies are developed that provide greater authentication and authorization, our campus IT and distance education

administrators will need to analyze and weigh carefully the benefits and risks to our institutions and students.

### **IDENTIFYING THE SCOPE OF THE DILEMMA**

At first glance, the authentication element sounds like a cheating or testing issue, but upon closer examination, authenticating students in online courses is a larger and more complex problem that affects the fabric of higher education and how we traditionally teach and learn. At the 2009 conference of the University Continuing Education Association (UCEA), this issue was the topic of heated discussion among distance learning administrators, and of particular relevance to this article. Discussion began with authentication tools and procedures and quickly moved to authentic assessment and online teaching and learning. Among the universities represented at the presentation, several have been testing and piloting high-tech authentication systems in order to reduce costs associated with traditional exam proctoring, increase legitimacy and security of their programs, and to manage growth more efficiently. Currently the majority of institutions represented at UCEA with online degree programs require proctored exams (primarily public universities) or have no proctored exam requirements (primarily private, for-profit universities). Few online graduate programs at any public or private institution were found to require exam proctoring since graduate-level courses typically assess students based on projects, papers, portfolios, and presentations rather than knowledge-based testing.

Since subjective assessments in graduate courses rely upon the relationship between the instructor and the student to authenticate the student's identity, many administrators expressed concern about whether these courses would be considered compliant with the law. While some graduate courses require proctored exams, for the most part proctoring is a staple of undergraduate courses, comprising the majority of all online offerings. Conference attendees indicated that because proctoring was still commonplace at their institutions, they were particularly interested in learning more about authentication technologies available for use in proctored scenarios.

For the time being, current authentication systems that rely on user IDs and passwords will be considered acceptable by accrediting agencies. However, new products and technologies have emerged that are being targeted to higher education for identity management purposes. Many institutions are looking at biometric systems, which create individually unique identifiers for employees and students. Physiological biometrics are

identifiers unique to an individual's physical characteristics—fingerprints, iris, and face recognition and speech (pitch) patterns. A behavioral biometric is the unique behavior that each individual exhibits, including handwriting, typing, and even speaking patterns.

### **HIGH-TECH SOLUTIONS**

Research on biometric student authentication systems indicates that a variety of identification technologies are available for use in higher education, some of which are already familiar to us. These systems can be used anytime a student logs into the learning management system, in proctoring situations, and during synchronous class sessions. These technologies include:

- fingerprint scanning,
- iris scanning,
- keyboard typing cadence,
- speech recognition, and
- handwriting recognition.

Non-biometric authentication technologies available for use include:

- web cameras and microphones that visually record the student's testing environment, movements, and background noise;
- onsite, remote proctors who monitor the student taking the exam at the student's location;
- "out-of-wallet" data mining of personal data that randomly requires students to answer personal questions before or during the exam;
- lockdown browsers that prohibit students from Internet browsing or instant messaging service while taking an exam (within a learning management system);
- IP address verification, where students are required to take their exam on a specific computer; and
- secure password and identification systems.

### **LOW-TECH OPTIONS FOR CONTINUING EDUCATION**

The consensus among distance education administrators attending the UCEA conference presentation and those posting on a variety of Internet blogs and information sites is that as long as the HEOA does not dictate the methods of authenticating student identity, institutions will continue

to work cooperatively with accrediting agencies to ensure that current methods are meeting the authentication litmus test. Several administrators commented that this new requirement gives continuing education the opportunity to take the lead on our campuses in guiding our programs into the future to guarantee program integrity and accountability. However, others stressed that any changes to authenticating student identity can be accomplished only with the input and cooperation of our faculties. As several institutions noted, attempts to implement new systems within their online learning programs without faculty input were doomed to fail. High-tech authentication requires monitoring and decision making by instructors, and without faculty buy-in, our institutions will waste valuable time and resources.

### ADVICE FROM DISTANCE EDUCATION ADMINISTRATORS


During the UCEA conference presentation on this subject, distance education administrators suggested we ask ourselves these important questions before undertaking any new authentication and identity system:

- What is the cost-benefit ratio of implementing a new system compared to retaining the traditional proctored exam system for undergraduate general education courses?
- What types of systems are faculty willing to support? What are the faculty workload implications?
- What authentic assessment strategies combined with a secure authentication system are possible?
- How can campus-wide identity management systems be utilized to fulfill distance education accreditation requirements?
- What training do we need to offer our faculty to enhance and improve the use of authentic assessment and faculty-student interactions?

### CONCLUSION

Though the HEOA is the result of fraud committed by diploma-mill organizations and concerns by legislators about student cheating, we have learned that we cannot change pedagogy for technology's sake. Currently our online degree programs comprise all levels of degrees, diplomas, and certificates. The HEOA language does not and will not expect all of our courses or programs to change the manner in which faculty interact with or assess their students. Continuing education leaders should understand



the context of the act and its enforcement by accrediting agencies, and know their options for complying. Campus conversations should ensue about quality online teaching and learning, student interaction, authentic assessment, and the cost-benefit ratio. Then and only then should technological solutions be incorporated into campus-wide discussions. Student authentication and identity is not a continuing education problem; it is a higher education problem that must be solved with input from all of our stakeholders. 

### RESOURCES ABOUT STUDENT AUTHENTICATION AND IDENTITY

The following organizations are closely following the impact of the HEOA on distance education, student authentication, and identity:

- New Media Consortium (<http://www.nmc.org/>): The New Media Consortium is an international nonprofit consortium of nearly 300 learning-focused organizations dedicated to exploring and using new media and new technologies.
- Western Cooperative for Educational Telecommunications (WCET) (<http://www.wcet.info/2.0/>): WCET is a cooperative network of member institutions and organizations that provides a leading source of critical thinking and expertise on the evolving role of technology in higher education.
- International Biometric Group's BioPrivacy Initiative (<http://www.bioprivacy.org/>): Recognizing that biometric technologies are seeing increased usage in the public and private sectors, International Biometric Group's BioPrivacy Initiative defines best practices as well as deployment and technology guidelines for maintenance of personal and informational privacy in biometric deployments.
- Council on Higher Education Accreditation (CHEA) (<http://www.wchea.org/>): A national advocate and institutional voice for self-regulation of academic quality through accreditation, CHEA is an association of 3,000 degree-granting colleges and universities, and recognizes 59 institutional and programmatic accrediting organizations.
- Higher Education Opportunity Act of 2008 (<http://www.ed.gov/policy/highered/leg/hea08/index.html>): Full text of the Act.

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