Academic Dishonesty in Online Coursework

Securing the eCampus 2012
Breakout Session – Wed 18 July 2012

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Topics

- What’s the problem?
- Possible solutions
- Risk analysis
“On the Internet, nobody knows you’re a dog.”
What’s the Problem?

- Functional problems
  - How do we establish the identity of students registering in online courses?
  - How do we verify that the work submitted under the name of registered students was created by those students?
  - How do we know that the recipients of degrees legitimately deserve those degrees?

- Administrative problem
  - How do we comply with law?
  - How do we comply with regulations of accrediting bodies?
Elaborating on the Problem

- Commission on Institutions of Higher Education (CIHE) of the New England Association of Schools & Colleges (NEASC): *Pp90 Guidelines for the Evaluation of Distance Education (On-Line Learning)*

9. The institution assures the integrity of its on-line learning offerings.¹

**Examples of evidence:**

a. The institution has in place effective procedures through which to ensure that the student who registers in a distance education course or program is the same student who participates in and completes the course or program and receives the academic credit. The institution makes clear in writing that these processes protect student privacy and notifies students at the time of registration or enrollment of any projected additional costs associated with the verification procedures. *(Note: This is a federal requirement. All institutions that offer distance education programming must demonstrate compliance with this requirement.)*

b. The institution’s policies on academic integrity include explicit references to on-line learning.

c. Issues of academic integrity are discussed during the orientation for on-line students.

d. Training for faculty members engaged in on-line learning includes consideration of issues of academic integrity, including ways to reduce cheating.

*July, 2009*
Older Guidance from NEASC

- From superseded document “Best Practices for Electronically Offered Degree and Certification Programs (no longer available)

- 5b. When examinations are employed (paper, online, demonstrations of competency, etc.), they take place in circumstances that include firm student identification. The institution otherwise seeks to assure the integrity of student work.

- If proctoring is used, what are the procedures for selecting proctors, establishing student identity, assuring security of test instruments, administering the examinations, and assuring secure and prompt evaluation?

See also SACS: http://www.sacscoc.org/pdf/commadap.pdf

- If other methods are used to identify those who take the examination, how is identification firmly established? How are the conditions of the examination (security, time limits, etc.) controlled?

- Does the institution have in place effective policies and procedures to assure the integrity of student work?
Some Proposed Solutions

- What you know (that no one else does)
- What you have (that no one else does)
- What you are (static biometrics)
- What you do (dynamic biometrics)
- Where you are (IP addresses)
Securexam Remote Proctor

- Biometric authenticator (fingerprint)
- Movement sensor
- Sound sensor
- USB connection to computer
- Detects unusual movement or noise – registers event
- Would signal disruption of communication with remote server

http://softwaresecure.com/Main.aspx
Acxiom’s FactCheck-X Authenticate (discont’d)

- Online tool
- Randomly asked questions to user to authenticate identity
  - Where people lived
  - What car they owned
  - What school they attended when
- Based on databases of historical, public data
- But such invasions of privacy not approved
  - See “Online Educators Won't Have to Spy on Students, New Rules Say” by Marc Parry in *Chronicle of Higher Education* (2009-06-03)

http://chronicle.com/article/Online-Educators-Wont-Have/47291/
Electronic HW & Exam Submissions (1)

- At Norwich University, QM213 Intro to Statistics course uses NUoodle (NU Moodle)
- Students download homework (XLSX files)
- Homework checking uses random selection of questions in electronic quiz
- Instructor (MK) allowed 3 tries & accepted highest score over 2 week period
- Quiz showed students correct answer for every question
- Students reported that gangs of students collaborated in recording and sharing correct answers – meaningless HW & exams!
Electronic HW & Exam Submissions (2)

- One solution: give every student a unique dataset
  - Might work for a few students at a time
  - But there are 70 students in class
  - Not scalable

- Another possibility: define different problem set for each repetition of quiz
  - Does not prevent student collaboration to cheat

- Another idea (most likely for 2012-2013): give electronic exam only once & only in class with instructor supervising
  - Increased pressure on students
  - Harder to cheat

- One more idea: every student must submit their HW file on same day as exam – check metadata
NUoodle Ate My Homework

- One student in QM213 Spring 2012 complained that his homework was lost by system
  - Said he completed all but one of assignments
  - Bitterly protested F grade
- But instructor had enabled detailed logging in NUoodle
  - Demonstrated that student had not logged into system a single time between late Feb and last day of course!
  - All other student records showed proper logging
- MORAL: always enable detailed logging!
Risk Analysis

- Student pays NU $33K to sign up for degree
  - Then pays someone else to do all or part of work
- Then what?
  - Continues to pay imposter to do student’s work in job?
  - How does ignoramus get a job and keep it with a bogus claims of knowledge?
- How is this problem different from authenticating identity of on-campus students?
- How often does this problem happen?
  - Compare frequency to use of completely bogus credentials
About the Proposed Solutions:

- What you know (that no one else does)
- What you have (that no one else does)
- What you are (static biometrics)
- What you do (dynamic biometrics)
- Where you are (IP addresses)

Humbug
Humbug??

- Every method of authentication is a linkage between one method of identification and another
- It is a trust linkage
- But how do we establish trustworthiness of electronic input of a remote student?
  - Cheater logs on and uploads imposter’s work
  - Cheater logs on and allows imposter to interact with system
  - Imposter arrives at graduation impersonating cheater for exams
- And how would we stop same for on-campus students?
DISCUSSION