



Testing with Technology

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Thank you for joining us! Please remember to complete your pre- and post-evaluations and turn them in at the end of the presentation.

Cell phones and pagers should be turned to silent or off. Thank you!

Testing with Technology

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Presentation Objectives

- Identify testing options
- Discuss methods and best practices to incorporate online testing in academic courses
- Explain the pros and cons of online testing vs. traditional paper or scantron forms
- Explain how Respondus LockDown Browser is utilized in online testing
- Review the D2L Quiz options and Analytics reports for online testing

Presentation Agenda

Part I:

- Testing overview/review
- Online testing best practices & lessons learned
- Analytics Reports-stats used with the testing

Part II:

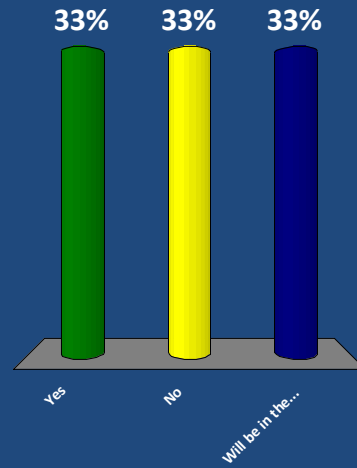
- Respondus LockDown Browser for students
- D2L Quiz settings to add LDB software requirements
- Location of Analytics Portal and test results in D2L

Part III:

- Question and answer

Do you currently administer online/web-based exams?

- A. Yes
- B. No
- C. Will be in the future



Testing Overview/Review

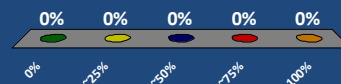
Review of Testing/Assessments

- Different types of assessment methods (acc'd to ACGME Toolbox of Assessments)
 - Record Review or Chart Stimulated Recall
 - Checklists or Rating Forms*
 - OSCEs (Objective Structured Clinical Exam) or Standardized Patient Exams*
 - 360° Global Ratings
 - Portfolios*
 - Written or **Online Exams**
 - Oral Exams
 - Procedure or Case Logs
 - Patient Evaluations

Medina MS. Rubrics: Part 2 in Student Assessment, Education Grand Rounds (4/20/12)
Dennis V. The Use of Student Portfolios in Health Sciences Education: Applications and Best Practices, Education Grand Rounds (1/20/12)
Letassy N. The Use of an Integrated OSCE to Assess Pharmacy Students' Clinical Skills, Education Grand Rounds (11/16/12)

On self-reported questionnaires, what percentage of students admit to cheating on exams?

- A. 0%
- B. ~25%
- C. ~50%
- D. ~75%
- E. 100%



Students Want to Help Protect Academic Integrity

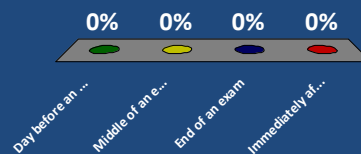
- “I really don’t feel that the college takes an active role in preventing academic misconduct” (Yuet et al. 2012)
- “The student culture is pervasively geared toward achieving maximum results at minimum effort, regardless of moral concerns.” (Yuet et al. 2012)

-HSC Student

Yuet WC et al. Student Perspectives on Protecting the Academic Environment, Education Grand Rounds (9/21/12)

When Does Cheating Most Likely to Occur?

- Day before an exam
- Middle of an exam
- End of an exam
- Immediately after the completion of exam



Proctoring Recommendations

- Setting up and seating arrangements
 - Distributing exam expectations 24 hrs in advance
 - Avoid answering questions during exam
 - Place exams at least every other seat
 - Set up room in advance
 - Use seating chart
 - Leave belongings at front of room
- Proctoring the exams
 - Use at least 2 proctors
 - Use same procedures for exams and quizzes
 - Cheating likely to occur at beginning and end
 - Have at least one faculty observing students when collecting exams
 - Avoid using answer keys
 - Use Lockdown Browser if online testing

Medina MS. Protecting the Academic Environment Using Course Syllabi and Exam Proctoring: Part 2, Education Grand Rounds (10/19/12)

Online Testing (Computer-based Testing, or CBT) Best Practices & Lessons Learned

Online Testing Best Practices Proctored Exams

- Issues:
 - Test bank security
 - Use of other information (ie online)
 - If using laptops: more easily accessible to others
- Recommendations:
 - Clearly communicate expectations for academic integrity
 - Use Respondus and password protect the exam
 - Show questions one at a time*
 - Randomize the test questions and/or test options*
 - Set exam time limits – use forced submission
 - Restrict test review
 - Use trained proctors

Conway-Klaassen JM, Keil DE, 2010

Online Testing Best Practices Offsite Exams

- Issues:
 - Authenticating the student
 - Use of other information, other individuals
 - Test bank security
- Recommendations:
 - Clearly communicate expectations for academic integrity
 - Explore proctor alternatives such as U-proctor or test proctor centers
 - Set exam time limits – use forced submission
 - Use alternate test design methods (unfolding clinical cases, large test banks)
 - Other ideas: use web conferencing, web cams, identity authentication programs

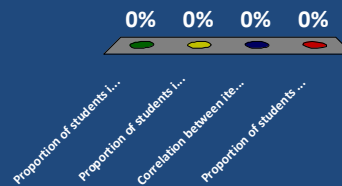
Online Testing Best Practices Other Proctored Exam Logistics

- Ensure enough ports if using wireless exams
- Use OUBASE if BYOD
- Have backup laptops
- Have backup plan

Analytics Reports Statistics Used with Testing

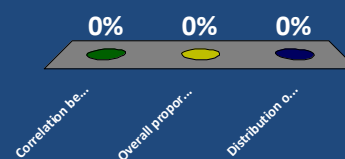
What is overall item difficulty?

- A. Proportion of students in upper 27% who answered item correctly
- B. Proportion of students in lower 27% who answered item correctly
- C. Correlation between item performance and overall test
- D. Proportion of students answering item correctly



What is point biserial?

- A. Correlation between performance on an item and performance on overall test
- B. Overall proportion of students answering an item correctly
- C. Distribution of students selecting each exam item option



Terminology

- Total % (aka p-value)- Overall proportion of students answering an item correctly
- Upper 27% - Proportion of top performers who answered item correctly
- Lower 27% - Proportion of bottom performers who answered item correctly
- Discrimination Index - Difference between the proportion of the upper group who answered item correctly and proportion of the lower group who answered item correctly
- Point biserial - Correlation between performance on an item and performance on overall test
- Distribution - # of students who chose each option

Item Statistics Available via Analytics Portal

Question ID	Question Name	Total %	Upper 27%	Lower 27%	Discrimination Index	Point Biserial	Standard Deviation	Correct Answer	1	2	3	4	5	Total
200000	Q1-01	0.86	1.00	0.70	0.30	0.38	0.34	4	5	10	6	140	1	150
200001	Q1-02	0.98	1.00	0.92	0.08	0.27	0.16	3	1	1	158	0	2	150
200002	Q1-03	0.29	0.48	0.18	0.30	0.28	0.46	2	9	47	44	46	16	150
200003	Q1-04	0.97	0.98	0.92	0.06	0.21	0.17	1	157	5	0	0	0	150
200004	Q1-05	0.93	1.00	0.82	0.18	0.27	0.26	4	0	0	0	150	12	150

Item Statistics Reference

- Item difficulty: ~ 0.75
- Point biserial: For samples of 165, one recommendation is 0.15-0.16, another ≥ 0.00
- Index of Discrimination:
 - $D \geq 0.40$ = Good
 - $0.30 \leq D \leq 0.39$ = Little to no revision
 - $0.20 \leq D \leq 0.29$ = Revise
 - $D \leq .19$ = Eliminate or revise

D2L Quizzes Tech Support

HSC Academic Technology

<http://www.ouhsc.edu/at/>
web-courses@ouhsc.edu

The UNIVERSITY of OKLAHOMA HEALTH SCIENCES CENTER
 ACADEMIC TECHNOLOGY

e-Learning Resources **Videoconferencing**

ELearning Tools | Desire2Learn | Online Design | Qualtrics | Desktop | Group

Respondus
 Turnitin
 Turning Point
 Computer Training Options
 Other Resources

Academic Technology is to lead the university and engage the students in the utilization of technology for an enhanced experience.

News and Announcements
 2012 Computer
 • Allied Health
<http://www>
 • Training/E

Respondus Software-Faculty

- <http://www.respondus.com/products/respondus/index.shtml>

The screenshot shows the Respondus website interface. At the top left is the Respondus logo with the tagline "Assessment Tools for Learning Systems". To the right are navigation links: CONTACT, CUSTOMER LOGIN, PRODUCTS, SUPPORT & RESOURCES, PARTNERS, NEWSLETTER, and COMPANY. A Twitter icon is also present. The main content area features a large green banner for "Respondus 4.0" with icons for a document, chat, file, power, and hand. Below the banner is a list of product links: Respondus 4.0, Demo Movies, Webinar, Guides, Trial, Pricing, LockDown Browser, Monitor, StudyMate, and Test Bank Network. A descriptive paragraph states: "Respondus is a powerful tool for creating and managing exams that can be printed to paper or published directly to Blackboard, ANGEL, Desire2Learn, Pearson eCollege, Canvas, Moodle, and other learning systems. Exams can be created offline using a familiar Windows environment, or moved from one LMS to another. Whether you are a veteran of online testing or relatively new to it, Respondus will save you hours on each project." On the right side of the page is a small Respondus 4.0 logo.

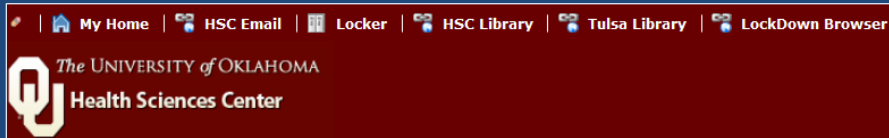
Respondus Software-Students

- <http://www.respondus.com/products/lockdown-browser/index.shtml>

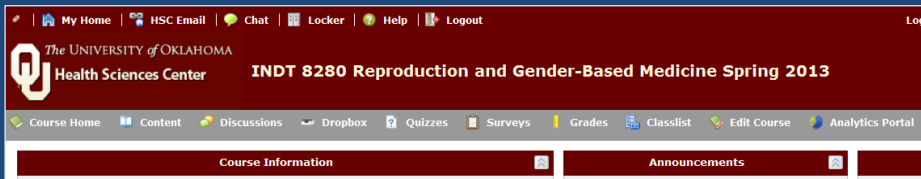
The screenshot shows the Respondus website interface for the LockDown Browser product. At the top left is the Respondus logo with the tagline "Assessment Tools for Learning Systems". To the right are navigation links: PRODUCTS, SUPPORT & RESOURCES, PARTNERS, CONTACT, and CUSTOMER LOGIN. A Twitter icon is also present. The main content area features a large green banner for "Respondus LockDown Browser" with icons for a document, chat, file, power, and hand. Below the banner is a list of product links: Respondus 4.0, LockDown Browser, Demo Movies, Webinar, Guides, Trial, Pricing, Monitor, StudyMate, and Test Bank Network. A descriptive paragraph states: "Respondus LockDown Browser™ is a custom browser that locks down the testing environment within Blackboard, ANGEL, Desire2Learn, Canvas, Moodle, and Sakai. When students use Respondus LockDown Browser they are unable to print, copy, go to another URL, or access other applications. When an assessment is started, students are locked into it until they submit it for grading. Available for both Windows and Mac." On the right side of the page is a small Respondus LockDown Browser logo.

Desire2Learn (D2L)

- My Home-Respondus LDB



- Course Site-Quizzes and Analytics Portal



Student D2L Training Site

- My Home-Self Registration link (self enroll)
- Practice Quizzes with and without LDB

Course Offering Code	Course Offering Name	Course Offering Cost
COM12_TUL_PCMH	COM Tulsa PCMH Training 2012	
COPH12_MHA	COPH MHA Internal Competition 2012-2013	
COPH13_BSE_math	BSE Math Bootcamp 2013	
OTH12_OUHSC_SAS	OUHSC SAS Users' Group 2012-2013	
TR_STUDENT100	Student D2L Training Site	

Current Quizzes	Grades	Actions
Sample Quiz	64/64	Always
Respondus LockDown Browser Sample Quiz	13/13	Always

D2L Quizzes Features

- Question Library-pool of questions
- Variety of question formats
- Variety of settings to release quizzes
- Images can be added to questions or answers
- Bulk re-grade option
- Built in features to ensure answers are saved

D2L Quizzes & Respondus LDB

- Restrictions Tab-LockDown Browser Required

The screenshot displays the 'Public Health Sample Quiz - Edit' interface in D2L. The 'Restrictions' tab is selected, showing the following settings:

- Availability:**
 - Status: Active
 - Dates:
 - Has Start Date: 1/13/2011 8:00 AM (United States - Chicago)
 - Has End Date: 1/13/2011 6:00 PM (United States - Chicago)
 - Display in Calendar
- Additional Release Conditions:**
 - Buttons: Attach Existing, Create and Attach, Remove All Conditions
 - Text: There are no conditions attached to this item.
- Security Options:**
 - Respondus LockDown Browser: Required to take this quiz
 - Required to view quiz feedback and results

On the left side, there are navigation tabs for 'Quizzes Areas' (Manage Quizzes, Question Library, Course Statistics) and 'Instructions' (Users can only see this quiz when the Status is set to active, Your Late Submissions selection only applies if the Time Limit is enforced, A Grace Period of at least one minute is given to users before flagging their attempt as late, Special Access allows you to override the availability and timing settings of this quiz for specific individuals).

D2L Quizzes Feedback

- Submission Views Tab-
 - Default View: feedback after Submit button
 - Add Additional View: later review session

The screenshot shows the 'Public Health Sample Quiz - Edit' interface. On the left, there are navigation tabs for 'Quizzes Areas' (Manage Quizzes, Question Library, Course Statistics) and 'Instructions'. The main content area is titled 'Submission Views' and includes a 'Default View' section with the following settings:

- Date:** immediately
- Show Questions?** Show all questions with user responses
- Show question answers:** Yes
- Statistics:** none

 Below this is an 'Additional Views' section with an 'Add Additional View' button. At the top of the main content area, there are tabs for Properties, Restrictions, Attempts, Objectives, Submission Views (selected), Reports Setup, and Layout/Questions. Above these tabs are icons for Quiz List, Edit, Grade, Reports, Stats, and Preview.

D2L Quizzes-Feedback Options

The screenshot shows the 'View Properties' dialog box. At the top, there is a 'Message' field with a pencil icon and the text 'Your quiz has been submitted successfully.' Below this is a 'View Details' section with the following options:

- Show Questions?** Yes
 - Show questions answered incorrectly
 - Show questions answered correctly
 - Show all questions without user responses
 - Show all questions with user responses
- Show question answers
- Show question score and out of score
- No
- Score:** Show attempt score and overall attempt score
- Statistics:** Show class average
- Show score distribution

D2L Feedback-Student View

Attempt 1

Written: Feb 14, 2013 11:19 AM - Feb 14, 2013 11:19 AM

Submission View

Your quiz has been submitted successfully.

Question 1 0 / 1 point

You are participating in a demo of D2L testing on the Tulsa OUHSC campus.

True
 False

[View Feedback](#)

Question 2 1 / 1 point

You are a student from which OUHSC college?

Allied Health
 Dentistry
 Graduate College
 Medicine
 Nursing
 Pharmacy
 Public Health

[Hide Feedback](#)

Go Sooner Public Health Majors!

Attempt Score: 1 / 2 (50.00 %)

D2L Analytics Portal

- Quiz Item Analysis Report
- *Special Note: Quizzes has general Stats*

Course Home Content Discussions Dropbox Quizzes Surveys Grades Classlist Edit Course Analytics Portal

Analytics Portal
Quiz Item Analysis

[Report List](#) [Report Categories](#) [View Report](#)

[Hide Filters](#) [Run Report](#)

Report Filters

Role [Select Values](#) [Clear Values](#)


Quiz [Select Values](#)


[Run Report](#)

Report Description

Quiz Item Analysis is a set of statistical measures for assessing the quality and characteristics of quizzes and individual items. Actionable feedback on quizzes and individual questions. These measures are considered standard for certain types of high-stakes assessments. Assumptions are made:

- 1 - Quiz results are assessed based on first attempt.
- 2 - Quiz contains only multiple-choice questions.
- 3 - Each quiz question has only one correct choice.
- 4 - The question order can be randomized, but all examinees receive the same set of questions.
- 5 - Quiz questions relate to a coherent subject area to ensure applicability of the quiz reliability measure.



 **Quiz Item Analysis Report**
Thu Feb 14 12:08:51 EST 2013

D2L Quizzes & Online Testing

- Utilized for at least one course (usually more) in most HSC colleges
- Allied Health: D2L Tech Support Staff
 - Pam Farmer
 - Gina Vile

References

- Conway-Klaassen J.M., Keil D.E. Discouraging academic dishonesty in online courses. *Clinical Laboratory Science* 2010;23 (4) 194
- Hejri S.M., Zendejdel K., Asghari F., Fotouhi A. and Rashidian, A. Academic disintegrity among medical students: a randomised response technique study. *Medical Education* 2013; 47: 144–153.
- McCabe D.L. Academic dishonesty in nursing schools: an empirical investigation. *Journal of Nursing Education* 2009; 48 (11), 614–623.
- Hart L. Strategies for online test security". *Nurse educator* 2009;34 (6):249.