

Exam Technology Landscape

UTCVM Master Teacher Program

Mar. 17, 2016

Exam Technology Landscape

- ***How can technology benefit exam development?***
- Provide a secure environment to upload/create and share exam questions with other instructors
- Categorize potential exam questions by topic, outcome or learning objective
- Create exams using these categorized questions
- Deliver exam to students via computer lab, personal laptops (Mac or PC), iPads to take the exam in secure environment
- Review analytics of exam questions

Exam Technology Landscape

- *What are some of common software programs?*
- Respondus
- Questionmark
- Examsoft
- Exambuilder
- Software Secure
- Blackboard
- Other options

Exam Technology Landscape

- ***How do these programs work?***
- Faculty log on to site with personalized password
- Upload existing questions from your computer and/or create new questions in the site
- Organize questions using standard categories or personalized categories you may create
- Categories may include topics, learning outcomes, learning objectives or other methods
- Select questions from your question bank to create exam
- Share secure drafts with other instructors in course

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- ***How is an exam created using such software?***
- May start with your previous test questions uploaded from your computer
- Or create new questions in the software
- Questions may be tagged by subject matter, difficulty, instructor, outcomes, objectives
- More than one category may be used to tag questions

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- ***How are exams administered using this software?***
- Set parameters of test (release date & time, total time to take exam)
- Instructor may scramble test questions or answers to provide different proximate screen views to students
- Exam is delivered in classroom or lab for students to download
- All internet capability is locked down (students cannot access internet or notes)
- When exam is completed, release results to students
- Item analysis and other test metrics available for instructor to review

Exam Technology Landscape

- ***What are considerations in using exam-building software?***
- There is an initial investment of time to build question databanks
- Once that process is complete, process to build an exam is simple
- You may include questions to test for future exams
- Software will alert you when you last used a question
- You can create a sample exam for student self assessment

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- ***What are other benefits software for exam building?***
- Program assessment of student outcomes
- Curricular review and real-time outcomes
- Accreditation data
- Curriculum mapping in real time
- Longitudinal monitoring of student progress (both individual and cohort)
- Improvement of student exams and question development

Exam Technology Landscape

- <http://resources.examssoft.com/h/i/202828791-examssoft-demonstration/227173>
- (2-minute video ExamSoft)



Blackboard

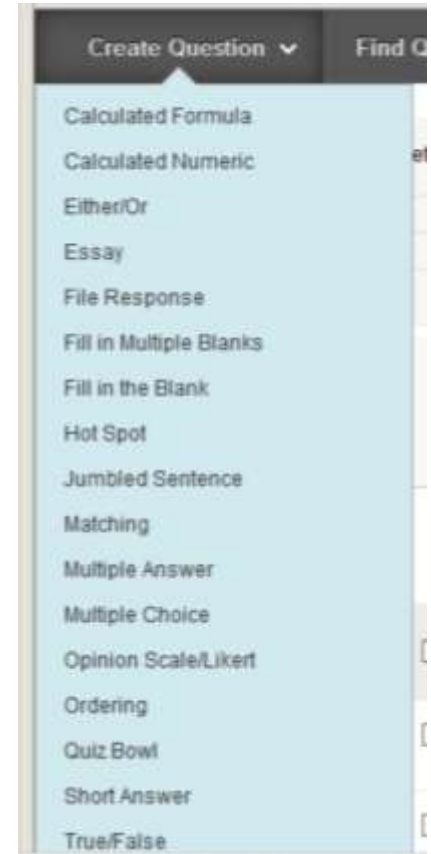
Blackboard Assessment Tools

Master Teacher Program

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Test Question Pools

- Types of questions



Test Question Pools

- Question metadata

CATEGORIES AND KEYWORDS

*Click **Add** to add a Category, Topic, Level of Difficulty, or Keyword to the question. Click the **X** in complete list of Categories, Topics, Levels of Difficulty, or Keywords.*

Categories

ID  Add Tag

Topics

None Add Tag

Levels of Difficulty

None Add Tag

Keywords

None Add Tag

Test Question Features

- Give partial credit
- Make test questions appear in random order
- Award extra credit
- Provide students with immediate feedback
- Create & associate rubrics with tests

Test Question Analysis

- Test question analysis
 - Difficulty
 - Discrimination value (>0.3 good; $0.1-0.3$ fair; <0.1 poor)
 - Indicates how well a question differentiates between students who know the subject matter those who do not. Uses Pearson correlation.
 - Discrimination values cannot be calculated when the question's difficulty score is 100% or when all students receive the same score on a question.

Lock Down

- Respondus LockDown Browser
 - Cannot print or copy assessment or screen
 - Cannot open new browser tab or window
 - Cannot open other applications
 - Cannot close assessment prior to completing it
 - Can provide students with calculator
- Students must download the app (free)
- Monitor (web cam)



Blackboard

OTHER SPECIAL FEATURES

Accessibility Exceptions

- “Availability” exceptions
 - Specific students
 - Extra time
 - Multiple attempts (for those who need extra time to learn the technology)
 - Availability extension
 - Screen readers

Achievements Tool

- Motivate students
- Reward milestone completion



Mobile compatibility tests



Limitations

Can only test mobile compatibility using a computer
Tests cannot be timed on mobile devices