Assessment Fish Bowl: Critiques of Assessment Approaches

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Introduction

- Distinction between assessment and evaluation
- Importance of clear goal setting
- Focusing on stakeholders questions
- Distinguishing between different evaluation questions
- Review of evaluations
- Choosing among assessment methods
- Opportunity for questions
Assessment and Evaluation

• Assessment: processes that are used to identify, collect, and prepare quantitative and/or qualitative data that will be used to evaluate achievement of project goals and respond to stakeholders.

• Evaluation: reviewing the results of the assessment process and making a determination of the value of findings and actions to be taken.
Goals of the project

• Why pen-based technology?
  – What do you think will be different as a result of using pen-based technology?
    • Student learning?
      – More efficient? (cover more)
      – More effective? (uncover more)
      – More fun/excitement? (positive attitude toward learning)
    • Faculty engagement?
      – More efficient delivery of content?
      – Ability to shift from lecturer to coach?
      – Increased ability to collaborate?
Who needs to know what?
(Stakeholders)

• Other faculty
  – Evidence that benefit exceeds the cost
    • Technology learning curve (what do I need to give up?)
    • Impact on student learning
    • Access to the technology

• Administration (decision makers?)
  – Cost
    • Classroom size (minimum/maximum)
    • Technology infrastructure required (on-going support)
    • Cost of the technology
    • Cost to sustain (life of technology, or, “What do we do when the money runs out?)
    • Can it be replicated
  – Buy-in from other faculty
  – Buy-in from students
  – Impact on learning (provide compelling evidence)
Who needs to know what?  
(Stakeholders)

- **Students**
  - Access
  - Ease of use
  - Comfort level
  - Cost/benefit

- **Grantor (if externally funded)**
  - What feedback to the grantor is required

- **Faculty member (grantee)**
  - Cost/benefit
  - Improve student learning
  - Is it the “right” technology
  - Efficiency of learning environment
Purposes of Assessment and Evaluation
(Why collect data?)

• Progress evaluation (formative assessment)
  – How is it going?
  – Are the anticipated outcomes being attained?
  – What are the unexpected developments?
  – What corrections are needed?

• Summative evaluation (summative assessment)
  – Did the project meet its goals?
    • Student outcomes
    • Faculty outcomes
  – What were the strengths and weaknesses?
  – What were the surprises? (serendipitous findings)
  – Can it be sustained?
  – Can it be replicated?
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Questions being asked

• Did the students learn more?
• Did students’ attitudes about learning change?
• Comfort with how they are learning (different methodologies)
• What is impact on group work?
• Impact of “tool” as opposed to the technique?
• What do students perceived to have valued during the class?
• Student preference for low vs high technology
Methods Used

• Pre/Post tests/surveys
• Lecture v lab
• Observations
• Use of control groups
• Server statistics
<table>
<thead>
<tr>
<th>Assessment Technique</th>
<th>Assessment focus</th>
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</thead>
<tbody>
<tr>
<td>Surveys (self-report)</td>
<td>Attitudes; self-assessment; pedagogical preference</td>
</tr>
<tr>
<td>Problem-solving (locally-developed test)</td>
<td>Student learning; selection of problem solving tools</td>
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<tr>
<td>Comparison groups</td>
<td>Student learning; effectiveness and preference pedagogical tools</td>
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<tr>
<td>Focus groups</td>
<td>Understanding student responses and preferences; validate survey data</td>
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<tr>
<td>Multiple contexts/courses</td>
<td>Attitudes; student learning</td>
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</tbody>
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Assessment Methods

- Written surveys and questionnaires
- Exit and other interviews
- Standardized exams
- Locally developed exams
- Archival records
- Focus groups
- Portfolios
- Simulations
- Performance Appraisal
- External examiner
- Oral exams
- Behavioral observations
Direct Measures

Direct measures provide for the direct examination or observation of student knowledge or skills against measurable learning outcomes.
Indirect Measures

**Indirect measures** are those that ascertain the opinion or self-report of the extent or value of learning experiences.
Direct
- Exit and other interviews
- Standardized exams
- Locally developed exams
- Portfolios
- Simulations
- Performance Appraisal
- External examiner
- Oral exams
- Behavioral observations

Indirect
- Written surveys and questionnaires
- Exit and other interviews
- Archival records
- Focus groups
Mixed Method Evaluation

- Evaluations that are based on both quantitative and qualitative assessments
  - Use of more than one method to study the same phenomenon (triangulation)
  - Use of both quantitative and qualitative methods provides increased validity of the findings
    - Increases understanding of the findings
    - Provides both depth and breadth
- Examples of quantitative methods
  - Focus groups
  - Interviews
  - Observations
  - Student narratives
Importance of compelling evidence

• Communicate to stakeholders
  – Prove
  – Improve
  – Inform
  – Persuade
  – Document
General Comments

• You cannot do everything
• Focus your evaluation questions
  What is the purpose of your implementing pen-based technology?
  • Tap into student learning preferences?
  • Increase student learning (breadth, depth)?
  – What do you need to know?
  – Who do you need to persuade? (primary stakeholders)
  – Who do you need to inform?
General Comments

• Do not take on assessment methodology for which you are not prepared (survey construction, focus groups, etc.)

• Do not be afraid to ask for help (build partnerships)
  – Teaching and learning centers
  – IT Department
  – Curriculum committees
  – Assessment expertise
  – Other faculty