Assessing the Quality of Assessment Practice

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SPECIAL THANKS TO ALLISON AMES, PH.D.
JAMES MADISON UNIVERSITY’S CENTER FOR ASSESSMENT AND RESEARCH STUDIES

Special Thanks to Allison Ames

Workshop Objectives
• As a result of this workshop, participants will be able to:
  1. Describe a general, six-step assessment model
  2. Navigate JMU’s meta-assessment rubric
  3. Practice using JMU’s meta-assessment rubric to evaluate first three steps of an assessment report
  4. Provide feedback to your home institution about meta-assessment
Purpose & Background

Goal: Help academic degree and certificate programs make decisions to improve student learning.

How do we assess the quality of 120+ academic program assessment plans?
- Trained raters evaluate and provide diagnostic comments to individual academic degree programs about the strengths and weaknesses of their assessment reports and practice.
- Our hope is that programs respond to this feedback, making their assessment process stronger and more useful for decision making about student learning.

Why do assessment?

Three reasons:
Intrinsic Reasons
1. Improve the effectiveness of a program, particularly as it pertains to student learning
Extrinsic Reasons
2. Accountability to stakeholders
3. Justify programmatic changes and resource allocation

Assessment Quality: Two Big Questions

When evaluating assessment, we ask ourselves two big questions:
1. What criteria are used by academic programs regarding the validity of inferences made from their assessment results?
   - These criteria are based on an “assessment cycle”
   - Connects all the main stages of a comprehensive assessment plan with quality indicators for each stage
2. Were these assessment results used logically to improve the program?
   - Because the end goals are program improvement and student learning, assessment plan should also include logical, actionable improvements
The Assessment Cycle

1) State Learning Outcomes
2) Map to Courses
3) Select Methods
4) Analyze and Interpret Results
5) Report to Stakeholders
6) Use Results for Improvement

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Stage 1: State Student Learning Objectives

Student Learning Objectives (SLOs) are what students should know, think, or do as a result of an academic program.

Specific and observable student learning and/or developmental objectives:
- They define the knowledge, skills, behaviors, or attitudes that students are expected to achieve as a function of your program.

High Quality Indicators:
- Student-centered objectives
- Specify what type/level of student
- Use clear verbs (avoid understand and know)
- Clarify knowledge, skill, or ability (KSA)
The Assessment Cycle

Stage 2: Mapping SLOs to Courses

Identify courses in which students should be learning knowledge/skills articulated in SLOs.

Program theory: how the design of the program should theoretically affect students.

Opportunities to learn

High Quality Indicators:
- Clear mapping helps interpret results
- Each objective should map to at least one element of the program or curriculum
- Be specific!
- To what extent is the objective covered in that class?
- What specific components of the activity or items on the test address the objective?
Stage 3: Selecting Assessment Methods

Many different types of instruments
Existing, or new
• Rubrics
• Questionnaires
• Tests (multiple-choice and open-ended)
• Behavioral Observations

Direct vs. indirect measures of learning

High Quality Indicators:
• Match instrument to SLO
• Choose direct and/or indirect measures
• Establish criteria for success
• Select data collection method
• Collect additional reliability and validity information

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Stage 4: Analyze and Interpret Results

What did you find, and what does it mean in relation to each SLO?
How did results compare to your criteria for success?
Did your analysis reveal any obvious strengths or gaps?
Are the findings unique this year or are they part of a trend?
How trustworthy are your results?

High Quality Indicators:
• Organize results and map back to SLOs
• Use appropriate analyses
• Interpretation must flow logically
• Link findings back to objectives and other parts of the process
The Assessment Cycle

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Stage 5: Reporting to Stakeholders

Identify stakeholders and what they want and need to know:
- Faculty in the program
- University administration
- Students
- Accrediting bodies and external boards

High Quality Indicators:
- Identify best mode(s) of communication
- Avoid jargon
- Make sure all faculty within the program receive information
- Share results outside of program/department

The Assessment Cycle
Stage 6: Using Results for Improvement

Program improvement based on solid evidence is the main purpose of assessment.

High Quality Indicators:
- Take curricular or pedagogical actions based on results and interpretation
- Specific
- Provide information about improving future iterations of assessment
- Including a timeline of events for proposed changes to a program

The Assessment Cycle

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Scoring

Now we know:
- What assessment is and is not.
- What “good” assessment practice looks like.

But how do we systematically and consistently assign scores to these APT reports?
- The APT Rubric
Assessing Quality: Assessment Evaluation Rubric

The indicators of quality are mapped onto a rubric

- Recall: Stage 1 is about stating student learning outcomes
- Student-centered, specific, clear, and describe the KSA
- The rubric has two parts for Stage 1: clarity/specificity, and orientation

I&II. Objective, course/learning experience

Student graduating in a BBA in Computer Information Systems will achieve the following objectives:

- **Programming**: Students will demonstrate proficiency in the programming of object-oriented, GUI, event-driven, database-enabled applications in at least two modern programming languages. Programming proficiency will include conceptual design, elegant and efficient coding, complete testing/debugging, and meaningful documentation.

- **Database Management Systems**: Students will demonstrate understanding of database concepts, and proficiency in developing effective data models, designing and implementing relational databases, and manipulating data using SQL.
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This objective could be improved by using a more precise verb. It is difficult to assess "understanding." An alternative phrase might be: "Students will describe database concepts, and develop effective data models..." assuming the program wants to assess students ability to describe database concepts.
This chart shows what courses map to which objectives. In addition, the chart also indicates the degree to which the objectives are covered in each course.

Including the degree of alignment between the student learning outcomes corresponds to Element II of rubric.

### Computer Information Systems

<table>
<thead>
<tr>
<th>Course Information Systems</th>
<th>Coverage of Objectives</th>
<th>0 = No Coverage</th>
<th>1 = Slight Coverage</th>
<th>2 = Moderate Coverage</th>
<th>3 = Major Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subject Area</td>
<td>Programming</td>
<td>Database Management Systems</td>
<td>Systems Analysis &amp; Design</td>
<td>System Architectures &amp; Technology Tools</td>
</tr>
<tr>
<td>COB204 Computer Info Systems</td>
<td>0 2 2 2 2 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 221 Principles of Programming</td>
<td>3 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 301 Operating Sys &amp; Server Admin</td>
<td>0 0 0 3 2 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CIS 304 Enterprise Architecture</td>
<td>0 0 2 3 2 2</td>
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**I&II. Objective, course/learning experience**

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**III. Evaluation/Assessment Methods**

The table summarizes what measures will be used and important information about each. Explicitly indicating the alignment between objectives and measures relates to Element III. A.

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Notice that all objectives are assessed using at least one direct measure of student learning. Having each objective assessed by at least one direct measure is a component of Element II, B.

The BBA program in Computer Information Systems uses several methods for its assessment. This table summarizes the process involving these methods. More detail about the methodology follows the table.

<table>
<thead>
<tr>
<th>Assessment Method</th>
<th>Corresponds to which objective(s)</th>
<th>Type of Measure</th>
<th>Data Collection</th>
<th>Expected Results</th>
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<tr>
<td>Embedded assessment in CIS 331</td>
<td>1 (programming)</td>
<td>Direct</td>
<td>Skills and concepts based upon quizzes</td>
<td>Development skills based upon improvements in teaching and student learning environment</td>
</tr>
<tr>
<td>Embedded assessment in CIS 320</td>
<td>6 (Writing)</td>
<td>Direct</td>
<td>Based upon peer evaluations on a group project</td>
<td>70% of students will be proficient based upon redesign of course in 2010-2011</td>
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<td>Embedded assessment in CIS 301</td>
<td>5 (Telecomm)</td>
<td>Direct</td>
<td>Based upon selected problems on the three exams</td>
<td>70% of students will be proficient based upon redesign of course in 2011-2012</td>
</tr>
<tr>
<td>Embedded assessment in CIS 454</td>
<td>4 (Architecture)</td>
<td>Direct</td>
<td>Based upon final exams/Course embedded</td>
<td>70% of students will be proficient based upon redesign of course in 2011-2012</td>
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<tr>
<td>Embedded assessment in CIS 221</td>
<td>2 (database)</td>
<td>Direct</td>
<td>Based upon final exams/Course embedded</td>
<td>70% of students will be proficient based upon redesign of course in 2011-2012</td>
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<td>Achievement Day Test</td>
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The chart also provides expected results for each assessment method. Both interim and reporting write-down results are provided. Instructions on how to use the report can be found in Section 1.1 of the 2012-2013 BIC.
Providing Comments

Why Are Comments Important?
To provide formative feedback
- Programs should be able to use comments to improve their assessment process

To explain/justify numerical ratings
- Comments should provide detail as to why the program obtained a specific score

To show that the APT has been carefully read/rated
- APTs are difficult and time-consuming to create. We want to respect the coordinators time by showing we carefully read each document

Logistics
- How does JMU use this rubric?
  - JMU has approximately 120 academic programs, and each academic program submits an assessment report
  - Graduate students, faculty, and staff from across campus rate these reports (14-20 total raters)
  - Two full days of training
    - Half-day on uses of assessment, assessment cycle, “Assessment 101” type material
    - One and a half days on calibration to the rubric
Logistics

- What happens after the training?
  - Raters rate in pairs: independently, then adjudicate
  - Approximately 6 days total to complete
  - Rigorous quality control process to ensure:
    - Comments provide diagnostic feedback
    - Scores are consistent and valid

Example feedback report of CIS program (2013-2014)

Do we have evidence that the feedback is being used, and used in a way such that assessment plans are improving?

On average, scores have increased significantly since this process began in 2008/2009.

Individual elements have shown even more change – for example, IIId (data collection design and integrity) has shown considerable improvement.
Re-Cap

As a result of this workshop, participants will be able to:
1. Describe a general, six-step assessment model
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A Closing Thought....

Using Results to Improve Student Learning

In general, institutions seem to be good at collecting data...

...but not so good at using the results to improve student learning.

Learning Improvement

Want more information?
Visit JMU and CARS’ assessment website:
http://www.jmu.edu/assessment/Visitor/AssessmentResources.shtml#APT

Contact Program Assessment Support Services (PASS):
programassessment@jmu.edu

Questions?
References


Center for Assessment and Research Studies, James Madison University