Assessing Learning Outcomes in Online Graduate Education

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Session Purpose

- Graduate deans often have responsibility for assisting faculty with identifying learning outcomes and with integrating tools for measuring the acquisition of skills and learning into course design and instructional practice.
- This session will cover a range of approaches, tools, and issues specific to the assessment of online graduate education.
- Specific examples (e.g., portfolios, case studies, simulations, and student portfolios) and disciplinary differences will be discussed.
Online Learning Is Linked to Transformative Dynamics In Higher Education

- Access
- Affordability
- Accountability
- Accreditation
- Assessment
<table>
<thead>
<tr>
<th>Terminology Related To Online Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Distance Education</td>
</tr>
<tr>
<td>▪ Online Learning</td>
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<tr>
<td>▪ Blended or Hybrid Learning</td>
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<tr>
<td>▪ E-learning</td>
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<td>▪ Networked Learning</td>
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<tr>
<td>▪ Mobile Learning</td>
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<tr>
<td>▪ Massively Open Online Courses (MOOCS)</td>
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<td>▪ Learning Management Systems</td>
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<tr>
<td>▪ Social Media, Web 2.0 Tools, Wikis</td>
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<td>▪ Outsourcing</td>
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</tbody>
</table>
Education Has Become A Blend Of Online And Face-to-Face Delivery

- Asynchronous delivery in which students can work on course material at any time or location is critical for distance education programs.

- Synchronous events such as online lectures, webinars, and telephonic or computer-mediated discussion groups can be linked to asynchronous delivery.

- U.S. Department of Education’s 2009 meta-analysis of rigorous research designs supports the conclusion that blended delivery is associated with the most positive learning outcomes in comparison to instruction that is done solely in class or online.
Factors Affecting Online Learning Assessment

- More diverse graduate student body
- New instructional tools (e.g., Web 2.0)
- Student readiness for independence in online learning
Valid Assessment of Learning Outcomes

- Academic rigor and integrity of course design and delivery
- National, regional, professional association standards
- Curriculum mapping
Foundations for Assessing Online Learning

- Specify measurable learning objectives (e.g., Bloom’s taxonomy)

<table>
<thead>
<tr>
<th>Lower-Order Skill</th>
<th>Knowledge</th>
<th>Define, recall, recognize</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Comprehension</td>
<td>Describe, review, explain</td>
</tr>
<tr>
<td>Higher-Order Skill</td>
<td>Application</td>
<td>Demonstrate, use, illustrate</td>
</tr>
<tr>
<td></td>
<td>Analysis</td>
<td>Differentiate, calculate, relate</td>
</tr>
<tr>
<td></td>
<td>Synthesis</td>
<td>Reconstruct, modify, devise</td>
</tr>
<tr>
<td></td>
<td>Evaluation</td>
<td>Assess, defend, interpret</td>
</tr>
</tbody>
</table>
Creating *Measurable* Learning Objectives

**Measurable terms**
- Define
- Describe
- Demonstrate
- Explain
- Build
- Analyze
- Choose
- Solve

**Unclear terms**
- Understand
- Appreciate
- Respect
- Become familiar with
- Review
- Explore
- Investigate
- Discuss
Traditional Tools Work for Assessing Online Learning

- Quizzes, exams
- Problem solving assignments
- Papers
- Case studies
- Simulations, role playing
Alternative Tools for Assessing Online Learning

- Discussion forums
- Wikis
- Blogs
- Web-based lab assignments
- Portfolios
Academic Integrity/Honesty

- Instructors highlight current policies on academic integrity in all courses
- Cumulative assignments
- Plagiarism checking services
- Technical authentication through CMS
- Regional site proctoring
Curriculum Mapping, Program and Course Learning Objectives

Tools For Assessing Learning In Online Graduate Education

THE FOCUS OF THIS WORKSHOP
Integrate assessment into course design and instructional practice
Overview of Curriculum Planning

- **Step 1**
  - Begin with your program competency model or stated learning objectives.
    - Learning outcome statements are often found in your catalog.

- **Step 2**
  - Derive measurable program level learning outcomes.
    - The key is measurability. You also have a choice at what level to measure.

- **Step 3**
  - Map these learning outcomes to your curriculum (courses).
    - Think about the flow of the student through the program and determine where learning objectives will be introduced, built upon, and assessed.
Measurable Learning Objectives

- A useful program level learning objective describes what the learner will know and be able to do upon graduation in measurable terms.
  - Each program level learning objective will support a broader competency or institutional learning goal.
  - Course learning objectives support the program level learning objectives and describe in greater specificity what the learner must know or be able to do in order to achieve the program learning objectives.
Creating useful learning objectives

- They are specific, clear, and learner centered.
  - They are stated in terms of what the learner can do.
  - They describe a particular competency under particular conditions.
- They describe the degree of competency required, either by explicitly stating the standard, or by reference to an obvious standard.
- They are measurable.
Creating a Curriculum Map

- Create two tables
  - Program Learning Objectives by Course
  - Course by Program Learning Objectives
<table>
<thead>
<tr>
<th>Institutional Learning Goal</th>
<th>Program Competency</th>
<th>Program Learning Objective</th>
<th>Course</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>AL405</td>
<td>Faculty Governance and Institutional Leadership in HBCUs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AL.2.b. Network and build coalitions</td>
<td>AL403</td>
<td>Influencing and Negotiating Your Way to High Visibility and Achievement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AL.2.c. Manage regulatory affairs and legal issues in an academic setting</td>
<td>AL405</td>
<td>Faculty Governance and Institutional Leadership in HBCUs</td>
</tr>
<tr>
<td>Course ID (To be Assigned)</td>
<td>Description</td>
<td>Program Learning Objectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------</td>
<td>-----------------------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| AL403. Influencing and Negotiating Your Way to High Visibility and Achievement | Course Description: (Runs concurrently with “Practicum 3.”) This course covers specific skills needed by women of color to build a leadership career in academia. It focuses on specific strategies necessary for overcoming competition and obstacles. (Three Credits) | AL.2.a. Negotiate standards for performance  
AL.2.b. Network and build coalitions  
AL.3.a. Negotiate the hierarchy for leadership roles within Historically Black Colleges and Universities (HBCUs), including the hierarchies within the STEM fields.  
AL.3.c. Resolve conflict among and between academic and institutional departments  
AL.6.a Influence, empower, and mentor others |
Tools For Assessing Learning In Online Graduate Education

PART 2
Step 4: Rubrics

- To consolidate student learning assessment results at the college or university level, a rubric framework must be consistent across programs.
  - Point scales must be the same across levels to allow for aggregation (roll-up)
- Rubrics must be developed that describe in measurable terms what a student can do at any given level.
  - Ideally, rubrics are consulted during the construction of course content.
  - Rubrics work best if faculty participate in their construction.
All Fielding students are expected to develop competencies in a number of areas. Please evaluate the extent to which you perceive this student has demonstrated each competency below in this Knowledge Area.

**Diversity**: Understanding of alternative points of view, diverse worldviews and/or epistemologies

- **Needs improvement**: Focuses solely on the culturally dominant points of view and does not articulate alternative perspectives.

- **Competent**: References a range of alternative perspectives along with dominant perspectives and provides sound scholarly-practice reasons for choosing the perspective or perspectives of focus.

- **Strong**: Outlines the key alternative perspectives available in the scholar-practitioner community and provides comparisons and contrasts among them. The work offers a substantial integration of dominant and alternative perspectives, a new theory that overcomes the shortcomings of existing approaches, or both.
All Human & Organization Development doctoral students are expected to develop competencies in a number of areas. Please evaluate the extent to which you perceive this student has demonstrated each competency below in this KA.

Knowledge of the relevant scholarly literature, primary and secondary sources, cross-disciplinary knowledge of literature where appropriate.

- Needs improvement: Does not include the minimum expected knowledge and understanding of the scholarly literature in the area under study. It relies too heavily on secondary sources, shows poor understanding of the differences between primary and secondary sources, or both; it does not include significant relevant cross-disciplinary knowledge.

- Competent: Demonstrates minimum expected knowledge and understanding of the scholarly literature in the area under study, uses primary sources appropriately and includes relevant cross-disciplinary knowledge.

- Strong: Demonstrates knowledge, understanding and analysis of a broad range of the scholarly literature in the area under study; shows in-depth understanding of primary and secondary sources and uses them appropriately throughout the work; shows foundational understanding of the key ideas from the relevant cross-disciplinary literature.
# Sample Program Learning Level Objective Rubric (4 point scale)

<table>
<thead>
<tr>
<th>Competency</th>
<th>Performance Level 1 (Novice)</th>
<th>Performance Level 2 (Internship)</th>
<th>Performance Level 3 (Entry-level)</th>
<th>Performance Level 4 (Graduate)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIO1. Research methods and statistics</strong></td>
<td>Searches in non-scholarly places like Google or Wikipedia, finds no scholarly research, or scholarly research that is found is not relevant; does not identify classic and/or new, leading edge research</td>
<td>Identifies sources of relevant, scholarly research, and waits for direction from supervisor before proceeding; rarely identifies classic scholarly and/or new, leading edge research.</td>
<td>Identifies sources of relevant, scholarly research, and actively seeks direction and clarification from supervisor during the research process; identifies some classic scholarly research as well as leading edge research.</td>
<td>Proactively searches for relevant research in published literature using well-established databases without prompting or much consultation; identifies key classic scholarly research as well as new, leading edge scholarly research.</td>
</tr>
</tbody>
</table>

AIO1.a The student is able to search for relevant research in the published literature using appropriate databases.
Embed assessment in curriculum

- Link learning objectives to standardized assignments within the course.
  - Sometimes called “signature assignments,” they are used in every section of the course.
  - They are developed by faculty who teach the courses.
- Train faculty to use the rubric and software (if available); phase in data collection.
Using data to improve student learning

- Create reports by competency and learning objective.
- Evaluate achievement of learning objective against pre-determined criteria.
- Examine in curriculum where learning objective mastery is falling short; plan corrections.
SIGNATURE
ASSIGNMENTS AND DATA COLLECTION
Example signature assignments

- At the course level (formative)
  - Case study
  - Annotated Bibliography
  - Research Forum
  - Scaffolded Capstone
  - Client deliverable
  - Live Presentation

- At the program level (summative)
  - Action Research Project
  - Comprehensive Exam
  - Portfolio
Case study

- This commonly used assessment presents the students with a problem-based scenario, usually without a “right answer.” This can be used to assess:
  - Application of theory to practice
  - Teamwork/Facilitation skills
  - Critical thinking skills
Annotated Bibliography

- These assignments are often used as preparation to write a literature review for a thesis or dissertation. They can be used to assess:
  - Research skills
  - Writing skills
  - Critical thinking skills
  - Content knowledge
Research Forum

- This is an interactive assignment, where a student brings to class a published study on a topic of interest and presents it to the class for discussion. This is useful for assessing:
  - Application of theory to practice
  - Content knowledge
  - Facilitation skills
  - Research skills
Scaffolded Capstone

- This is actually a series of assignments, where students build out portions of a larger assignment as the course progresses. Each intermediate assignment receives feedback. The final, integrated assignment is assessed. Can be used to assess:
  - Application of theory to problem solving
  - Skill mastery
  - Ability to use feedback
  - Ability to write client-ready reports or proposals
Live Presentation

- **Limits**
  - Synchronous events hard to schedule across time zones
  - Some programs do not allow mandatory synchronous events

- **Adaptations**
  - Break class into groups of one presenter, two participants and one observer with a rubric to take notes.
  - Record each session and upload for faculty review. Keep sessions short.
Client deliverable

- This is often used to assess skill development for writing client-ready work such as:
  - Response to request for proposal
  - Assessment reports
  - Marketing programs
  - Strategy proposals
  - Threat assessments
Action Research Project

- This type of project can be used in place of a thesis or capstone project. It requires the student to identify a problem or an issue, collect data, research best-practice or evidence based solutions or approaches, and propose a detailed solution to the problem. Can be used to assess:
  - Evidence-based problem solving
  - Content knowledge
  - Research skills
  - Writing skills
Comprehensive Exam

- Used most often at the doctoral level, these exams are summative measures used to assess student mastery of program learning objectives. They can include:
  - Essay questions
  - Simulations
  - Role-plays with confederates
  - Work samples
  - Presentations
Many accredited programs require portfolios to be built by students (for example, School Psychology) as examples of mastery of program competencies. Portfolios are collections of work samples that are evaluated by faculty to meet minimum performance samples. They may include:

- Written work, such as assessment reports
- Audiovisual recordings of performance work, such as a recital
- Photographs of work product, such as structures or sculpture
- Evidence of use of skills in public arenas, such as programs or newspaper clippings
Example: Technology based data collection

- Pearson Learning Outcome Manager
  - Add-on to eCollege Learning Suite
  - Requires a hierarchical learning outcome structure
  - Requires standardized rubrics with consistent point structure
  - Requires that signature assignments be graded in eCollege gradbook
  - Customizable reports
There are four levels within the Repository. Each level has a set of groups specific to that level. Groups are used to differentiate between items within a level. It is important to understand the difference between the use of these two labels, as well as that groups are different at each level within the Repository.

You will be adding to 2 levels within the Repository: 1) new Program Competencies and 3) new Program Learning Objectives. Rubrics that assess those Program Learning Objectives into the Repository are not considered a level within the Repository and are added to the Program Learning Objective level.
“Learning Outcomes” appears as a page under “Course Home” in the course.
Open the assignment for a student and click here to access LOM and make assessments.
LOM in the Gradebook

New screen opens to find the PLO listed here

Rubric listed here

Rating chosen is indicated here

Make ratings by clicking on the box for the rating you want or using the drop-down menu on the right.
Within the Gradebook, you can tell which assignments are linked to a PLO.
Next to “Learning Statement,” choose “ID Starts with:” from the drop-down menu and type in the Learning Statement ID. Click “Go.” The PLO will appear at the bottom. Check the box next to the PLO in the lower part of the window. Then click “Save and Add Another” to add more PLOs or “Add to Course” if you are finished adding PLOs to your course.
Next, link each PLO to an assignment in the course by clicking on the “Edit” button (looks like a sheet of paper with a pencil), which is the second to last button to the right of the PLO. Do not click on the red button, as this is the delete button.
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LOM in a Course: Link PLO to an Assignment

All content items within the course will appear in a list. Place a checkmark next to the assignments that should be linked to this PLO on the left. Then click the “Assessed” box at the very right of the screen. Then click “Continue.”
LOM in a Course: All PLOs Linked within a Course

![Learning Outcomes (HIDDEN TO STUDENTS)](image-url)
In Course Reporting: Details by Student

View assessment results under “Outcome Summary,” the default view is “Details by Student.” You can see which PLOs have been assessed so far in the term and what the ratings were for each student for each PLO.
In Course Reporting: Details by Student: Another View

<table>
<thead>
<tr>
<th>Name</th>
<th>ENG102.6</th>
<th>ENGL101.01</th>
<th>MBA642.01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benning, Ken</td>
<td>4/4</td>
<td>4/4</td>
<td>3.5/4</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>88%</td>
</tr>
<tr>
<td>Brown, Catherine</td>
<td>3.5/4</td>
<td>4/4</td>
<td>3.5/4</td>
</tr>
<tr>
<td></td>
<td>68%</td>
<td>100%</td>
<td>88%</td>
</tr>
<tr>
<td>Dunning, Jennifer</td>
<td>1/4</td>
<td>1/4</td>
<td>1.5/4</td>
</tr>
<tr>
<td></td>
<td>25%</td>
<td>25%</td>
<td>38%</td>
</tr>
<tr>
<td>Johnson, David</td>
<td>3.75/4</td>
<td>4/4</td>
<td>3.5/4</td>
</tr>
<tr>
<td></td>
<td>94%</td>
<td>100%</td>
<td>88%</td>
</tr>
<tr>
<td>Smith, Lisa</td>
<td>2.5/4</td>
<td>4/4</td>
<td>2.5/4</td>
</tr>
<tr>
<td></td>
<td>62%</td>
<td>100%</td>
<td>62%</td>
</tr>
</tbody>
</table>
In Course Reporting: Details by Outcome

You can also view assessment results by outcome. Click on “Details by Student.” You can see the number of students in each rating category for each PLO.
QUESTIONS AND DISCUSSION