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December 2010

CS 6 Engaging Faculty in the Assessment of Higher Order Student Learning Outcomes
AUSTIN COLLEGE - SHERMAN TEXAS

- Liberal arts college
- ~1300 students
- Recent general education revision eliminating “Heritage of Western Culture” interdisciplinary requirement that had engaged ~25 faculty each year
- Mellon Foundation grant to “partnered” courses – interdisciplinary, upper level, 2-3 weeks exchange
OBJECTIVES OF THE WORKSHOP

- Draw on faculty expertise as teachers;
- Clearly differentiate assessment from grading;
- Offer conceptually interesting ways to think about assessment;
- Provide an array of strategies, advocating triangulation;
- Illustrate choices by faculty teaching partnered courses fall 2010
Why care about “higher order skills”

Irrespective of college major or institutional selectivity, what matters to career success is students’ development of a broad set of cross-cutting capacities.

Anthony Carnevale, Georgetown U.
Center on Education and the Workforce
Assessment is not measurement. Assessment is a process that includes looking at our students’ learning, determining what strengths and weaknesses are present in the performances relative to what we hoped to see and then deciding what to do to improve their learning, if that seems necessary. (p. 45)
Questions

- What feedback helped you become a better teacher than you were the first time you taught undergraduates?
- When have you seen students take “one step forward, two steps back” then make a large move forward?
Goals of the workshop February 2010

- Identify what is unique in the partnered courses you plan to teach;
- Articulate that uniqueness in terms of course goals;
- Discuss manageable and interesting strategies to assess student learning;
- Write down your plan.
What makes assessment interesting?

- Nuanced
- Authentic
- Consensual
- Valid
- Useful
- Exportable
Triangulation
Triangulation

- Assumes no measure is fool-proof;
- If you have multiple measures you can look at whether they point to the same inference;
- If they do, that’s positive feedback;
- If they don’t, it’s time to rethink your assumptions, measures, inferences, etc.
Where to begin conceptually

- The educational mission of the institution;
- The strategic plan of the institution;
- Learning goals for your department/program;
- What you expect to be different by virtue of changes in your field;
- Ideas about interdisciplinarity, integrative learning, reflective learning
Differences between a grade and an assessment

- Assessment should ask an open-ended question -- one for which multiple answers are possible;
- A grade must be defensible (I know why I gave you a B instead of an A);
- Assessment is by definition formative, grading is summative (though it can be formative as well).
What is central to the Austin College story? (our general education outcomes)

- Critical inquiry skills
- Oral communication skills
- Written communication skills
- Information literacy skills
- Quantitative reasoning skills
- Openness to diversity
- Citizenship and civic engagement
Other conceptual goals

- Interdisciplinarity
- Integrative or synthetic thinking
- Matrix thinking
- Analytical skills
- Creativity
- Problem solving
- Reflective thought
- Transformational experiences
Interdisciplinarity

From the literature on cognition and instruction, it is possible to identify four cognitive abilities that interdisciplinary learning fosters. These include the ability to (1) develop and apply perspective-taking techniques, (2) develop structural knowledge of problems appropriate to interdisciplinary inquiry, (3) integrate conflicting insights (i.e., expert views) from two or more disciplines, and (4) produce a cognitive advancement or interdisciplinary understanding of the problem. (Repko, nd, pp. 2-3)
Critical and Integrative Thinking (WSU)

- Identifies, summarizes and (appropriately reformulates) the problem/question/work assignment
- Identifies and considers influence of context and assumptions
- Develops and communicates own perspective, hypothesis or position
- Presents, assesses, and analyzes appropriate supporting data/evidence
- Integrates issue using other (disciplinary) perspectives or positions
- Identifies and assesses conclusions, implications, and consequences
- Communicates effectively
Matrix Thinking (Cambridge et al. 2008)

Matrices can have a notable effect on learning and engagement when used to promote "matrix thinking." Coined by Sharon Hamilton and Susan Kahn at IUPUI, matrix thinking is the process of reflecting on work originally created in another context in relationship to the intersection of multiple dimensions of a shared conceptual framework (Hamilton, 2006). While it can take multiple forms depending on the context, matrix thinking is characterized by integration of ideas across disciplines and learning experiences.
Matrix Thinking (Susan Kahn, 2010)

- Kahn uses “matrix thinking” in working with capstone students by encouraging them to self-assess “intellectual growth” since the original creation of an artifact;
- She sees matrix thinking as building on current theory of “self-authorship” in identity formation by encouraging via a rubric or directed questions the articulation by the student of changes in knowledge, skills, abilities, and/or dispositions;
- She is at IUPUI -- presented at AACU January ‘10.
Kolb’s Theory of Experiential Learning

Concrete Experience → Reflective Observation

Active Experimentation → Abstract Conceptualization

Diagram showing the cycle: Concrete Experience to Reflective Observation to Abstract Conceptualization to Active Experimentation.
More on triangulation
Data sources

- Assignments (course artifacts);
- Course “evaluations”;
- Transcript analysis;
- Interviews or focus groups;
- Journals;
- Self-assessment;
- Retrospective and prospective hypotheses.
Interrater reliability
(this was a natural for our setting)

- Benefit of using criteria or a rubric to assess a student product;
- Clarity of communication in syllabi, grading, communication with students and with one another;
- Identification of problem areas -- the areas where you don’t agree.
# Basics of a rubric

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<tr>
<th>Criterion</th>
<th>Exemplary (or Very good, Fair, Poor)</th>
<th>Good enough</th>
<th>Not acceptable</th>
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<tr>
<td>Criterion</td>
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<tr>
<td>Criterion</td>
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Through the process developed through the Valid Assessment of Learning in Undergraduate Education (VALUE) project, we have discovered that the development and use of rubrics with collections of student work can have several key benefits:

- Rubrics help faculty articulate more precisely what the learning they want their students to achieve actually looks like,
- Rubrics help students understand the expectations for their learning.
- Rubrics reinforce assessment for learning, not just assessment of learning.
More on rubrics

Later, in introducing the rubrics, they also say: “[The project] builds on a philosophy of learning assessment that privileges multiple expert judgments of the quality of student work. . . “

They add:

“Learning develops over time and should become more complex and more sophisticated as students move through their curricular and co-curricular pathways toward a degree.”
Ways to think about the puppy (or the bunny or the cat pretending to be a raccoon)

- Different measurements;
- Different perspectives -- each of yours as instructors and the students’;
- Different perspectives (2) -- different groups of students -- e.g., those in course A, those in course B and those in some course C.
- Different perspectives (3) -- time e.g., before, during or after the course.
References:


Center for the Study of Interdisciplinarity

[http://www.csid.unt.edu/](http://www.csid.unt.edu/)
References (Cont)


Repko, Allen F. (ND) Assessing Interdisciplinary Learning outcomes

http://www.uta.edu/ints/faculty/REPKO_Outcomes_AEQ.pdf


WSU's Critical and Integrative Thinking Rubric Center for Teaching, Learning and Technology
https://my.wsu.edu/portal/page?pageid=177,276578&_dad=portal&_schema=PORTAL