Optimizing Integrative Learning by Connecting Curriculum and Performance Assessment

NC State University Undergraduate Assessment Symposium
Saturday, April 25, 2009

Marcia Mentkowski, Alverno College, Professor of Psychology, Director, Educational Research & Evaluation
Our aspiration is for students to integrate—to continually make connections and create new wholes out of multiple—parts between knowledge and skills in the subject areas, for example.

Learning That Lasts is Integrative

The learner begins to integrate, to continually make connections and create new wholes out of multiple parts: his or her knowledge and ability/skill, individual abilities/skills needed in a given situation, and abilities/skills and the situation or context. Students learn to integrate knowing and doing by performing in class and off-campus. They do what they know in performance assessments that reflect the world they live in...

Performance is the integration of knowing and doing—in class and off campus

To think of learning as performance is often to think in terms of acting out, or applying, what is learned. This misdirects. Performance is a kind of learning in which a student is actively engaged and involved, whether it be in creating a painting, solving an experimental design problem, or developing a public relations strategy for a business.

Mentkowski & Associates, 2000, p. 242
Multidimensional performance entails the whole dynamic nexus of the individual’s intentions, thoughts, feelings, and construals in a dynamic line of action and his or her entanglement in an evolving situation and its broader context. Such a context may be within or across work, family, civic, or other settings (Rogers, Mentkowski, & Reisetter Hart, 2006, p. 498).
Performance Assessments

Embedded in Courses

• Performance assessments are part of the student’s everyday coursework
• They primarily serve individual student learning (fostering, certifying)

Embedded in Curriculum

• Performance assessments are also used for studying patterns of student performance (e.g., in capstone courses; in external assessments within and across the disciplines/professions)

(Loacker & Rogers, 2005)
Innovation and Inquiry (IISL) Consortium of 2-Year Colleges

Alverno College (coordinator)
Anne Arundel Community College
Bellevue College
Butler Community College
Cascadia Community College
Central Piedmont Community College
Chippewa Valley Technical College
Clark College
College of the Menominee Nation
Columbus State Community College
Dallas County Community College District
Durham Technical Community College
Edison College
Edmonds Community College
Flathead Valley Community College
Gateway Technical College
Georgia Highlands College
Georgia Perimeter College
Heartland Community College
Hocking College
Inver Hills Community College
Isothermal Community College

LaGuardia Community College
Lake Washington Technical College
Lorain County Community College
Madison Area Technical College
McHenry County College
Middlesex Community College
Milwaukee Area Technical College
Minneapolis Community and Technical College
Mt. San Antonio College
Olympic Community College
Peninsula College
Pierce College
Prairie State College
Quinebaug Valley Community College
Sinclair Community College
Skagit Valley College
St. Philip’s College
Tarrant County College District
Tunxis Community College
Valencia Community College
Waukesha County Technical College
Wisconsin Indianhead Technical College

43 Institutions, 97 Participants
http://iisl.alverno.edu

2006-2010
Examples from a Consortium of 2-Year Colleges Engaged in Collaborative Inquiry

• Faculty rely on integrative learning from beginning learners and model it themselves—they help students connect previous learning to new learning in the classroom
Consortia for Collaborative Inquiry

- engagement in **inquiry** by faculty and other academic personnel
- laced with **examples, evidence, and citation**
- documented **discovery** of what they learned and how they learned it
- **peer review** within consortia across diverse institutions and professions
UK Assessment Project Network

- Assessment Plus
- Gloucestershire Business School
- Northumbria University
- Open University
- Oxford Brookes University
- Queen’s University Belfast
- Sheffield Hallam University
- Southampton Solent University
- University College London
- University of Exeter

- University of Luton
- University of Newcastle
- University of Nottingham
- University of Oxford
- University of Plymouth
- University of Strathclyde
- University of York
- Alverno College, US
- University of Technology, Sydney Australia

43 contributors from 19 institutions
Collaborative inquiry by diverse disciplines and institutions yields innovative practices in curriculum and assessment.

Student Learning Initiative

- Alverno College
- Avila College
- Birmingham-Southern College
- Bowling Green State University
- California State University, Fullerton
- California State University, Monterey Bay
- Central Missouri State University
- Clayton College and State University
- DePaul University School for New Learning
- Fort Valley State University
- Huston-Tillotson College
- Indiana University of Pennsylvania
- Indiana University Purdue University, Indianapolis
- James Madison University
- Niagara University
- North Carolina State University
- Olivet College
- Rivier College
- Rose-Hulman Institute of Technology
- Samford University
- Seton Hill College
- State University of New York College at Fredonia
- Truman State University
- University of Alaska Southeast
- University of Washington
- University of Wisconsin-La Crosse

71 participants from 26 institutions
Characteristics of Learning-Centered Institutions: A Framework

- Achieving clarity about learning outcomes
- Coordinating teaching and assessment to promote student learning
- Aligning structures and resources to serve student learning
- Working continuously to improve the environment for learning

Student Learning Initiative
(Student Learning Initiative, 2002, p. 3)
Insights from the Student Learning Initiative

- When learning outcomes are integral to the degree, they make a significant difference in student learning.
- So assessments should require students to integrate knowledge and skill in their disciplines/professions.

26 institutions
Student Learning Initiative
(Student Learning Initiative, 2002, p. 3)
Performance assessments embedded in the curriculum encourage collaborative inquiry by faculty about how students integrate knowledge (biology, management) and abilities/skills (communication, problem solving). Later, these students can integrate a range of learning outcomes and gradually transfer them across the curriculum and co-curriculum.

26 institutions
Student Learning Initiative
(Student Learning Initiative, 2002, p. 3)
Alverno’s Eight Curriculum Abilities Integrated with the Disciplines/Professions

- Communication
- Analysis
- Problem Solving
- Valuing in Decision-Making
- Social Interaction
- Developing a Global Perspective
- Effective Citizenship
- Aesthetic Engagement
Depth Model of an Advanced Learning Outcome:
A multidimensional, complex combination of . . .

- knowledge
- understanding
- behaviors
- skills
- attitudes
- self-perceptions

... integrated in the disciplines/professions
... inferred from performance assessments

- values
- motives
- dispositions
- habits
Why integrative learning?

• Faculty rely on integrative learning from beginning learners and model it themselves—they help students connect previous learning to new learning in the classroom

• Integrative learning is at the heart of applied learning
The Essential Learning Outcomes

- Knowledge of Human Cultures and the Physical and Natural World
- Intellectual and Practical Skills
- Personal and Social Responsibility
- Integrative and Applied Learning

www.aacu.org

Integrative Learning

- Integrative and Applied Learning, Including
  - Synthesis and advanced accomplishment across general and specialized studies

  *Demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems*

AAC&U
The Essential Learning Outcomes

• Knowledge of Human Cultures and the Physical and Natural World
• Intellectual and Practical Skills
• Personal and Social Responsibility
• Integrative and Applied Learning

www.aacu.org

Why integrative learning?

• Faculty rely on integrative learning from beginning learners and model it themselves—they help students connect previous learning to new learning in the classroom.

• Integrative learning is at the heart of applied learning.

• Sophisticated integration of knowledge, skills, and responsibilities is best assessed in complex performance that calls for transfer of learning outcomes across time and settings.
Learning That Lasts is Situated and Transferable

• Learning is most secure when it is situated in the context of its ultimate use. Internships, mentorships, and apprenticeships embody situational dynamics that become concrete resources for learners...students develop an integrated sense of themselves as learners and performers who shape and reshape “what they do with what they know” as situations change.¹

¹Mentkowski & Associates, 2000, p. 242
Learning That Lasts is Situated and Transferable (cont.)

• Students ground their performances in a particular context, and begin to construct and interpret their roles across various situations. Thus, they begin to connect disciplinary learning to real-world performing. Through learning experiences and performance assessments across settings, students learn to transfer college learning from one context to another.¹

¹Mentkowski & Associates, 2000, p. 243
Some campuses with e-portfolios:

- Alverno College
- Bowling Green State University
- City University of New York – LaGuardia Community College
- College of San Mateo
- George Mason University
- Kapi’olani Community College
- Portland State University
- Rose-Hulman Institute of Technology
- San Francisco State University
- Spelman College
- St. Olaf College
- University of Michigan

\(^1\) http://www.aacu.org/value/
Integrative Learning Rubric
Criterion for Assessing Transfer

Levels:
1. **Connects** familiar frameworks to new situations
2. **Applies** familiar frameworks to new situations
3. **Synthesizes** familiar frameworks into new uses
4. **Adapts** familiar frameworks for new uses

1 AAC&U VALUE Project, Criterion for Integrative Learning, Integrative Learning Workgroup, 12/08
Integration and Transfer

1. Connects
   Makes connections between what was learned in the first biology course and new learning in the second biology course.

2. Applies
   Uses concepts and skills developed in a local project to reframe a related global problem.

3. Synthesizes

Synthesizes and develops historical, scientific, or artistic concepts by thinking with them and interacting with them in specific situations.

4. Adapts

Reframes one hypothesis from studying various topics across previous science courses to form several creative, testable hypotheses in an unscripted setting.

An English literature student: “By the time we studied *Othello*, I feel I was able to demonstrate how a text shapes my expectations and interpretations as a reader. I found myself using my prior knowledge of Shakespeare’s use of language, tone, irony, foreshadowing; and passages I was marking followed a common theme.”

A psychology student: “This project showed me two important things for future academic work. The first was, it taught me how to make connections where there aren’t any. I made connections from animal-assisted therapy and developmental theories on my own. I wasn’t very confident in my ability to do this and I think this was apparent…”

A chemistry student: “I learned that chemistry requires a higher proportion of analysis than of performing the actual procedure in the laboratory. I saw that even when a protocol is followed completely, results do not occur as expected. Therefore, analysis is needed when the protocol accomplishes the desired results. This is so the actual mechanisms are learned and can be applied to future use.”

Benefits of Assessing “Complex Performance”

- Students can transfer learning when it is embedded in multiple performance contexts and when they use self-assessment to abstract their abilities beyond the performance.

- Examples of performance provide an opportunity for diverse groups to have a conversation about actual and desired student and alumni outcomes.

Learning Outcomes Linked to Student-Attributed Causes

• instructor affirmation and empathy, feedback, self assessment

• experiential validation, instructor coaching, professional application, integration of abilities

• practice, feedback, modeling, peer learning

• taking responsibility for learning

• making relationships among abilities/skills and their use

• using different ways of learning

These students gradually learn to define abilities as an integration of knowledge, skills, attitudes, motives, and dispositions

1. How do I know my students are improving/optimizing their integrative and applied learning?
   – at the course level for individual students
   OR
   – at the level of the department for students as a whole
Exercise in Creating Meaning: Inquiry with Colleagues on Your Campus

1. What has our department been doing in the last few years to improve/optimize integrative student learning?

Suggestion: Choose an example where we are clear about learning goals:

– at the course level for individual students

OR

– at the level of the department for students as a whole
• Communicate and analyze educational values, beliefs, and assumptions about education, learning, inquiry, and assessment.
• Communicate and analyze educational values, beliefs, and assumptions about education, learning, inquiry, and assessment.

• Use a language of learning and assessment in free, frank, and fair discussion.
• Communicate and analyze educational values, beliefs, and assumptions about education, learning, inquiry, and assessment.
• Use a language of learning and assessment in free, frank, and fair discussion.
• Engage in peer review with constructive feedback in a culture of inquiry.
Five kinds of language likely to emerge in conversation

• context-specific language of learning and assessment to discuss observed student learning across the majors
• terms and methods that reflect different modes of inquiry
• disciplinary and role language that have different meanings
• more abstract language in education as a discipline
• what other academic personnel know about learning and assessment
Optimizing Integrative Learning by Connecting Curriculum and Performance Assessment

NC State University Undergraduate Assessment Symposium
Saturday, April 25

Marcia Mentkowski, Alverno College, Professor of Psychology, Director, Educational Research & Evaluation
References

American Association for Higher Education. (1994, October). American Association for Higher Education Testimony to the Joint Committee on the Standards for Educational and Psychological Testing: Testimony presented {M. Mentkowski, AAHE Advisor to the Joint Committee} at Open conference on the test standards revision project, Crystal City, VA. Complete set of documents submitted by AAHE to the Joint Committee available from ere@alverno.edu.


Photographs by

- Alverno College Marketing Communications
- ARTstor Inc.
- Lynn Chabot-Long, Alverno College
- Marcia Mentkowski, Alverno College
- White House Photo by Pete Souza