Constructive Alignment: Developing Valuable Student Learning Assessments

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Key Assessment Questions

How can we create learning environments that give our students the best chance of success?

How will you and your students come to understand the nature and progress of their learning?

Bok (2006)

If assessing student learning is a goal of all colleges and universities - why not utilize relevant research findings?

What seems to be lacking is the will to apply what we already know...

Derek Bok, Our Underachieving Colleges: A Candid Look at How Much Students Learn and Why They Should Be Learning More (Princeton, N.J.:Princeton University Press, 2006).

Fundamental Assessment Paradox

Since the emergence of assessment as a widespread phenomenon at American colleges and universities in the mid-1980s, faculty involvement has been repeatedly identified as essential.

81% of Faculty describe their workload as heavy, too heavy, or much too heavy.

TIAA-CREF Institute Research (2008),CRLT Occasional Paper #28 (2010)

Opening Doors to Faculty Involvement in Assessment, National Institute for Learning Outcomes Assessment (2010)

Assessment Paradox - Solutions?

Align assessment with the normal activities of teaching and learning

Advance authentic assessment research as appropriate faculty scholarly activity

Integrate assessment into graduate school training

Opening Doors to Faculty Involvement in Assessment, National Institute for Learning Outcomes Assessment (2010)

Pat Hutchings, Carnegie Foundation for the Advancement of Teaching

Assessment Feedback Constituents

Government

Parents

Administration

Board of Trustees/Governors

Prospective Students

Faculty/Staff Colleagues

Accreditation Body

Your Supervisor

Current Students

You

etc.

Student Learning Assessments

FSSE/NSSE

Projects/Papers

Portfolios/Reflections

Lumina Foundation

Peer Evaluation

Quizzes/Exams

Performances

AACU-LEAP

Rubrics

Disciplinary Standards

etc.

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Personal Context

TA Training and Curriculum Design

NSF Funded Research in the University of Wisconsin System - New Traditions

Project Facilitator for the Multi-Initiative Dissemination Project

Assessment of NSF MSPinNYC, Bridges to the Doctorate, REU programs

Institutional Context - Rollins College

- Rollins College educates students for global citizenship and responsible leadership, empowering graduates to pursue meaningful lives and productive careers. We are committed to the liberal arts ethos and guided by its values and ideals. Our guiding principles are excellence, innovation, and community.

- We value excellence in teaching and rigorous, transformative education in a healthy, responsive, and inclusive environment.

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Institutional Context - Oakland University

- As a state-supported institution of higher education, Oakland University has a three-fold mission:

- Provide instructional programs of high quality

- Advance knowledge and promote the arts through research, scholarship, and creative activity

- Render significant public service.

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Barr and Tagg (1995)

Do Colleges and Universities exist to produce instruction or learning?

Paradigm shift from an "Instruction" model to a "Learning" Model

Barr, R.B. & Tagg, J. (1995). From Teaching to Learning - A New Paradigm for Undergraduate Education. Change, Nov/Dec 1995, 13-25.

Institutional Context – Oakland University

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Institutional Context-University of Windsor

Enabling people to make a better world through education, scholarship, research and engagement.

The University of Windsor is Canada's most personal comprehensive university. It combines a strong and focused emphasis on the learning experience of every student with a very broad range of graduate, undergraduate, and professional programs.

Student Approaches to Learning

Reflection on an experiment conducted in Sweden in the 1970's

Deep, Strategic (Achieving), or Surface Approaches

What teachers do can influence what approach students take towards learning tasks

Biggs, J. 'The role of metalearning in study processes', British Journal of Educational Psychology, 55, 185-212, 1985.

Marton & Saljo 'On qualitative differences in learning', British Journal of Educational Psychology, 46, 4-11, 1976.

Shulman (1986)

Pedagogical Content Knowledge

Teaching methods are utilized as a vehicle for student knowledge construction

Pedagogy crafted specifically to satisfy a learning objective by using a teaching method that makes content [easily] comprehensible to a novice learner.

Promotes Deep learning approaches

Shulman, L.S. (1986). Those who understand: Knowledge growth in teaching. Educational Researcher, 15(2), 4-14.

Deci and Ryan (2000)

Basic Psychological Needs:

Competence – sense of mastery and improved skills

Relatedness – sense of connectedness

Autonomy – volitional choice

Deci, E.L. & Ryan, R.M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. Psychological Inquiry, 11, 227-268.

Why Self-Determination Theory?

Several Motivational Theories Examined

Social Learning Theory (Competence), Goal Orientation Theory (Intr/Extr Motivation), Attribution Theory (locus of control), Expectancy-Value Theory (extr rewards), Drive Theories (deficits vs SDT growth)

The major advantage of SDT over these theories is its explicit inclusion of the affective domain.

Why does the affective domain matter?

Experience a situation where their current conceptual understanding does not adequately explain a phenomenon (expectation failure).

They must care.

They must become dissatisfied with their current conceptual understanding.

They must arrive at an explanation that they can understand and that they find believable.

Posner, G.J., Strike, K.A., Hewson, P.W., and Gertzog, W.A. (1982). Accommodation of a scientific conception: Toward a theory of conceptual change. Science Education, 66, 211-227.

Sinatra, G.M., and Pintrich, P.R., Eds (2003). Intentional Conceptual Change. Mahwah, NJ: Erlbaum.

Zimmerman et al. (2006)

A research question emerges:

How do we encourage faculty to create learning environments that fulfill the participants basic psychological needs, enhance participant motivation, and encourage participants to take deep learning approaches?

Can we provide a correlation between course design and student learning?

Zimmerman, J.A., Levesque, C., & Sell, G.R. (2006). A Theory-Based Integrative Model for Learning and Motivation in Higher Education. In S. Chadwick-Blossey (Ed.). To Improve the Academy, vol. 24, pp. 86-103. Anker Publishing, Bolton, MA.

Key Assessment Questions

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Key Assessment Questions

How will you and your students come to understand the nature and progress of their learning? (Prove it...)

The answer is often discipline and faculty specific...

Constructive Alignment

Articulate student learning outcomes

Determine time on task, learning tasks, and assignments

Identify formative and summative assessments used in the course

Goal: To foster student content knowledge construction and create appropriate mental models

Biggs, J. (1999) Teaching for quality learning at university. Buckingham: Society for Research into Higher Education and Open University Press.

Formative and Summative Assessment

"When the cook tastes the soup, that's formative; when the guests taste the soup, that's summative." -Robert Stakes

Formative assessment: Activity/feedback designed to help the student improve.

Summative assessment: Activity/feedback designed to evaluate student performance.

ALIGNED BUT SEPARATE

Formative Assessment

Formative assessment: Activity/feedback designed to help the student improve.

Students are given opportunities to try, fail, and receive feedback prior to and separate from any summative assessment.

Measure the length of the string without the use of a ruler.

Formative Assessment - Examples

Constructively Aligned Formative Assessments

Eric Mazur - ConcepTests

Expressive Arts

Apprentice Model

Blogs/Discussions/Rough Drafts - on topic.

Misaligned Formative Assessments

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Summative Assessment

Summative assessment: Activity/feedback designed to evaluate student performance.

Students are given opportunities to demonstrate a specific level of mastery or competence separate from and after (m)any formative assessments.

Are these constructively aligned?

Summative Assessment - Examples

Constructively Aligned Summative Assessments

Marine Biology - Field Studies

Critical Media Studies

University of Michigan Freshman Comp

Medieval Literature - Real World Connection

General Chemistry Video Vignettes

Examples of Summative Misalignment

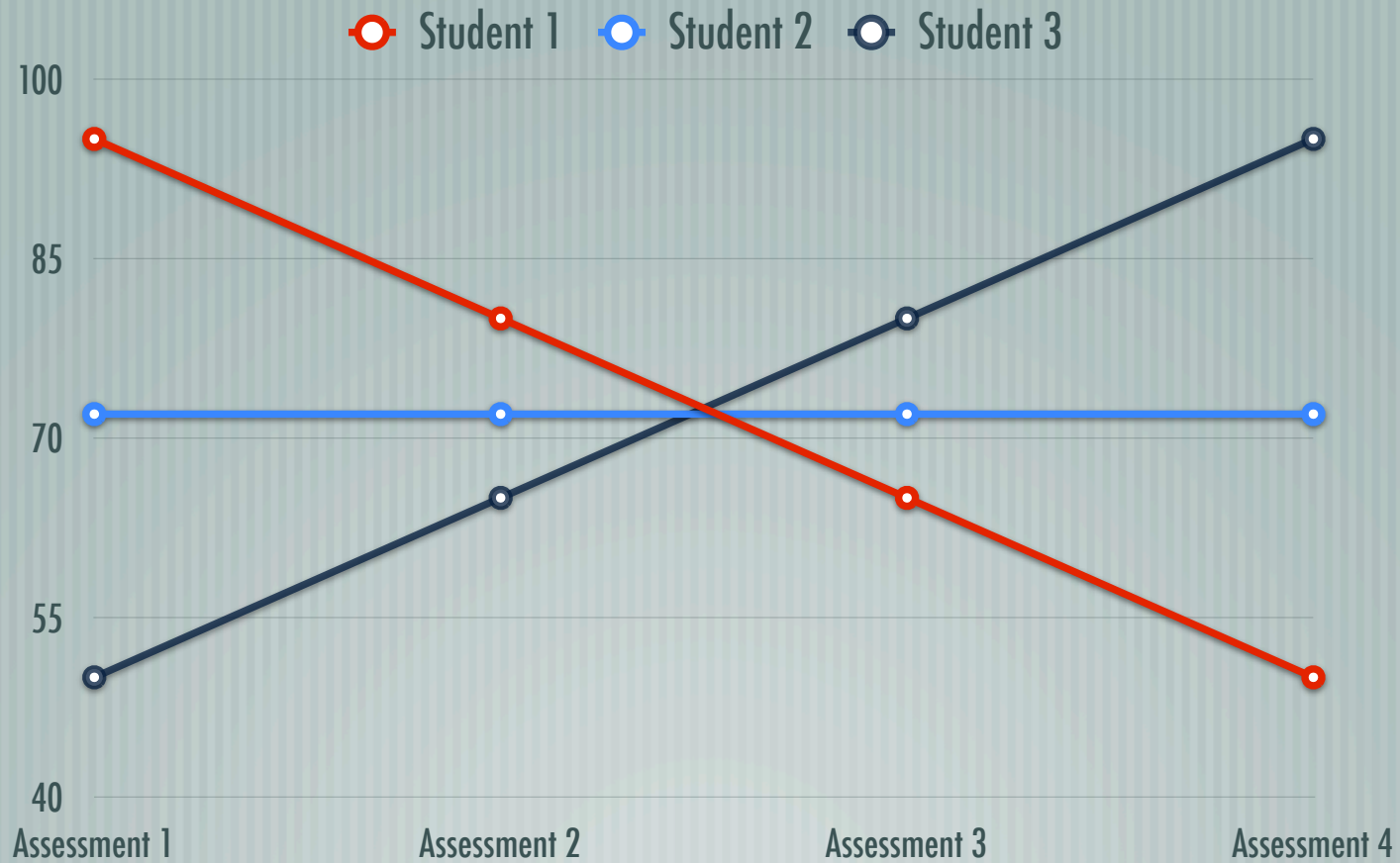Halloun and Hestenes - Arizona State University, Physics - FCI

Student frustration

General Science Laboratories

Misaligned Term Papers

Some grading philosophies?

Three student hypothetical...

Grading Philosophy example - Aligned?

Semester Examinations- 300 points

Quizzes and Assignments - 100 points

Semester Project - 100 points

Comprehensive Final - 200 points

What counts as valid assessment data?

Who can provide formative feedback?

Who can provide summative feedback?

What student artifacts should be collected (who should collect)?

Multiple perspectives?

Individualized assessment?

Public Displays of Competence - Kuh

I am so sorry for my delay in response. Yesterday was a whirlwind. Thanks to the initiatives of your students we raised $11,200 and we are expecting that amount to go up because we will be sending the YouTube link to those who did not attend the event yesterday.

The feedback was wonderful. We had tears around the room. I had one of my close friends attend and she said that she had not intended to pledge the amount that she did but after seeing the video she was moved to tears and gave 50% more. THANK YOU SO MUCH FOR YOUR HELP, I hope to work with your kids in the future.

Alignment = Broad Impact

Are your students spending time on the tasks that are most critical to their learning? (Flipped classroom)

Are your faculty spending time on the tasks that are most critical to the mission of your institution?

Are faculty roles and rewards aligned?

Are resource allocation/strategic planning initiatives constructively aligned?

Key Assessment Questions

How can we create learning environments that give our students the best chance of success?

Encourage faculty to create learning environments that fulfill the participants basic psychological needs, enhance participant motivation, and encourage participants to take deep learning approaches?

Key Assessment Questions

How will you and your students come to understand the nature and progress of their learning?

Create constructively aligned assessments that authentically foster and evaluate the nature and progress of student learning.

Thank you!

What questions to you have?