

DOING PROGRAM ASSESSMENT WHEN *LEARNING* MATTERS MOST *SEVEN TRANSFORMATIVE GUIDELINES FROM RESEARCH AND GOOD PRACTICE*

**A Workshop for Assessment Leaders at
Northern Arizona University**

8:30 to 11:00 AM on Friday 2 November 2007

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A Two-Minute Warm-up

Take a moment to recall one specific program assessment and improvement (PAI) project you've carried out recently.

With that specific PAI project in mind, please quickly jot down your top-of-head responses to the following questions:

1. What specific factor(s) motivated you to start it?
In other words, why were you doing it?
2. If you had stakeholders or clients in mind when you started, who were they? For whom exactly were you doing it?
3. As you progressed, what were the most challenging, bewildering and/or problematic elements of the process?

Focusing Program Assessment on Learning

What's in it for us? . . . Potential Benefits

- *Increased understanding of causal links between instruction and learning*
- *Better information for decision making and accountability reporting*
- *Improved learning quality and outcomes*
- *Higher retention and completion rates*
- *Higher revenues and/or lower costs*
- *More and more positive external awareness and interest*
- *Greater percentage of faculty engaged in meaningful scholarly activity*
- *More research and scholarly opportunities for faculty and students*

Seven Transformative Guidelines

1. **Build shared trust.** *Begin by lowering social and interpersonal barriers to change.*
2. **Build a shared language.** *Develop a collective understanding of new concepts (mental models) needed for transformation.*
3. **Build shared motivation.** *Collectively determine goals worth working toward and problems worth solving -- and consider the likely costs and benefits.*
4. **Design backward; Plan forward.** *Design backward from the shared vision and long-term goals to develop coherent outcomes, strategies, and activities to achieve those commonly held aspirations.*
5. **Fix structures and processes first.** *Systems flaws require systems solutions. It's usually more effective and cheaper, in the long run, to modify institutional "hardware" and "software" to serve users' needs than it is to modify users.*
6. **Develop organizational and individual capacity and culture.** *Develop a culture of self-evaluation, reflection, and empowerment, and use social and material technologies to support it.*
7. **Take a scholarly approach.** *Use what has been learned about individual and organizational learning, change, assessment and evaluation to inform and explain our efforts and strategies.*

Six Carnegie “Standards for Assessing Scholarly Work” (Glassick, Huber & Maeroff, 1997)

- CLEAR GOALS
- ADEQUATE PREPARATION
- APPROPRIATE METHODS
- SIGNIFICANT RESULTS
- EFFECTIVE PRESENTATION
- REFLECTIVE CRITIQUE

Seven Iterative Questions for Designing and Assessing Scholarly Program Assessment and Improvement Work

1. **Clear Goals**—What are the key goals, intended outcomes, questions, and/or hypotheses of your PAI project? What are you trying to achieve and why?
2. **Relevant Audiences**—Who are you hoping to engage, inform, influence and/or assist by carrying out this project?
3. **Significant Results**—What will count, and to whom, as significant results/ findings in your context? What kinds of evidence—and how much and how compelling--must you provide to support your results?
4. **Effective Presentation**—How, through what venues and media, will you share information on progress and evidence of results?
5. **Reflective Critique**—How and against what criteria and standards will you and others reflect on and critique your work in scholarly, useful ways?
6. **Adequate Preparation**—What relevant preparation and resourcing do you/your colleagues already have? What else/more do you require?
7. **Appropriate Methods**—Given your responses to the questions above, which of the available methods/approaches best suit your goals, intended audiences, their expectations, relevant criteria and standards, your level of preparation and available resources.

Design Backward, Plan Forward: Develop Shared Goals

FIVE DIMENSIONS OF HIGHER LEARNING

Approximate percentage
of the instruction *you* got
in your undergraduate years in . . .

What percentage of their
instruction *your* undergrad
students need now in . . .

_____ **DECLARATIVE LEARNING** _____
Learning *What*
Learning facts and principles

_____ **PROCEDURAL LEARNING** _____
Learning *How*
Learning skills and procedures

_____ **CONDITIONAL LEARNING** _____
Learning *When and Where*
Learning applications

_____ **REFLECTIVE LEARNING** _____
Learning *Why*
Learning to understand
one's self and others

_____ **METACOGNITIVE LEARNING** _____
Learning *How to Learn*
Learning to direct & manage
one's own learning

Clarifying Key Learning Outcomes (KLOs)

Examples to consider, critique and improve from *Phrenology 101*

1. On completion of Phrenology 101, you should be able to:

- A. Demonstrate enhanced knowledge of the basis tenets of phrenology and its history.
- B. Demonstrate understanding of what was current best practice of phrenology in England of the 1840s.

2. When you have completed this module, you should be able to:

- A. List the six basic tenets of Gall's phrenological system
- B. Identify, locate, and explain the functions of at least 30 of the "organs" of the brain
- C. Explain the significance of organ size and shape
- D. Identify and summarise the key contributions of at least six major figures in the history of phrenology

3. To complete this module, you must demonstrate that you can:

- A. Correctly locate and label all 35 organs on a map of the skull
- B. Phrenologise three subjects in one hour, summarise your analyses of all three in writing in the second hour, and achieve at least 85% agreement with expert analyses
- C. Prepare a character analysis and related career and marriage advice for a fourth subject, achieving at least 85% agreement with the expert responses
- D. Develop a 20-minute talk on your case study (C above), complete with visuals, for presentation at the Indianapolis Phrenological Society and evaluation by the members. [Presentation quality must be rated "Very Good" or "Excellent" by at least 80% of those in attendance.]

Designing Effective Program Reviews: A Sample Checklist

I. Contextual Factors influencing program review

I.1 Macro-Context: National, State/System Policies & Practices

Non-Existent Hi – Low – Neutral Low + Hi +

I.2 Institutional Context: University/College Policies & Practices

Non-Existent Hi – Low – Neutral Low + Hi +

I.3 Local Context: School/Dept. Policies & Practices

Non-Existent Hi – Low – Neutral Low + Hi +

II. Goals and Aims of program review

II.1 Goals related to institutional academic change

Non-Existent Low Priority Mid High Priority

II.2 Goals related to school/dept-level academic change

Non-Existent Low Priority Mid High Priority

II.3 Goals focused on individual professional development

Non-Existent Low Priority Mid High Priority

III. Strategies for developing and sustaining capacity

III.1 Systematic preparation for faculty

Non-Existent Emergent Developing Institutionalized

III.2 Systematic & ongoing support for individuals

Non-Existent Emergent Developing Institutionalized

III.3 Systematic & ongoing support for teams of faculty

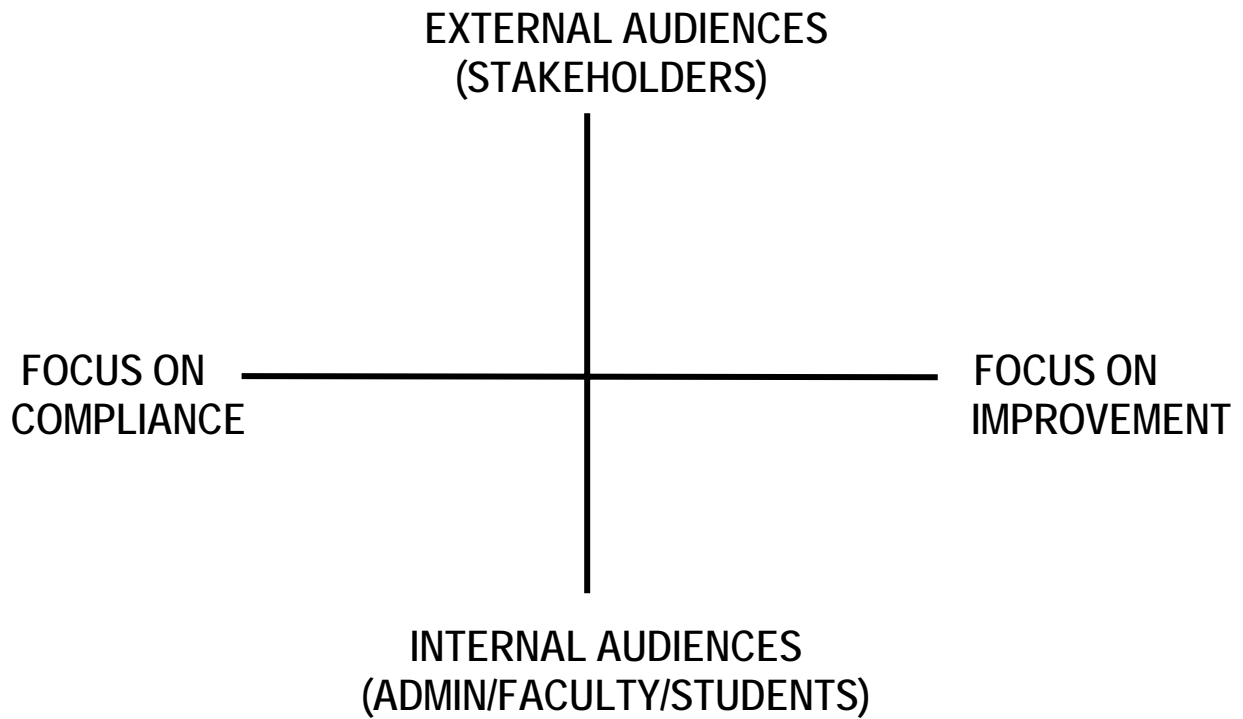
Non-Existent Emergent Developing Institutionalized

III.4 Consequential evaluation and rewards for achievement

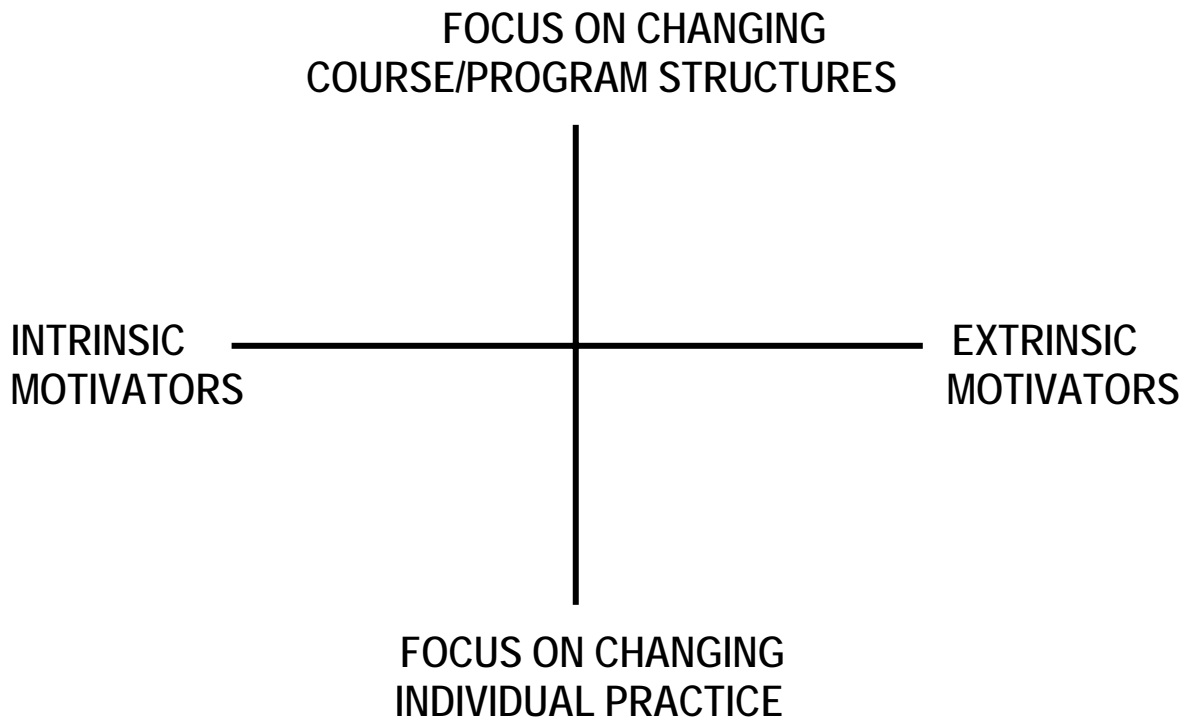
Non-Existent Emergent Developing Institutionalized

Designing Effective Program Reviews: A Mapping Exercise

Matrix #1



Matrix #2



Reflective Questions on Course Design and Constructive Alignment

Reflecting on a course you teach and know well:

- *List 3-5 key learning outcomes – things students should know or be able to do – that students in this course should remember clearly one year later.*
- *How clearly do students understand those learning objectives and why they matter?*
- *List 3-5 key learning assignments that explicitly further the learning outcomes listed above.*
- *List 3-5 key assessments that provide information on progress toward those learning outcomes.*
- *How clearly do students understand the links among learning objectives, assignments and assessments?*
- *How/when does the course determine whether students have the motivation, prior knowledge and skills to successfully learn those outcomes?*
- *How/when does the course help students develop the necessary motivation, knowledge and skills if they haven't already mastered them sufficiently?*
- *How/when/how often does the course provide students with feedback in time to help them succeed in key assignments and assessments?*

I. Course & Assignment (Re)Design–A Grid for Categorizing Key Learning Outcomes (KLOs)

The Knowledge Dimension	The Cognitive Process Dimension					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual Knowledge						
Conceptual Knowledge						
Procedural Knowledge						
Conditional Knowledge						
Metacognitive Knowledge						

Adapted from a workshop handout prepared by Irina Elgort, Educational Technologist, University Teaching Development Centre, Victoria University of Wellington (20.08.05) and from Anderson, L. & Krathwohl, D.R. (Eds.) (2001). *A Taxonomy for Learning, Teaching, and Assessment: A Revision of Bloom's Taxonomy of Educational Objectives (Abridged Edition)*. New York: Allyn & Bacon.

II. Course & Assignment (Re)Design–A Frame for Mapping Key Learning Outcomes (KLOs)

<p>Key Learning Outcomes of the Course</p> <p>What & how well are students expected to know and be able to do by the end of course?</p>	<p><i>Diagnostic Assessments</i></p> <p>How will you find out what students already know and can do – and how well – re: KLOs, when they begin?</p>	<p><i>Major Learning Assignments/Tasks</i></p> <p>What will students actually do in order to develop/ practice/ master those Key Learning Outcomes?</p>	<p><i>Formative Assessments</i></p> <p>How & when will you provide feedback for learning before high-stakes assessments?</p>	<p><i>Summative Assessments</i></p> <p>How & when will you assess, mark, and grade individual achievement of Key Learning Outcomes?</p>

A SAMPLE ASSESSMENT/GRADING RUBRIC

Macroeconomics Essay Grading Grid

Assignment: Write a well-structured, enlightened critical essay about current economic conditions that demonstrates command of existing economic knowledge, appropriate interpretation and application of that knowledge, and appropriate use of data and argumentation to support your well-reasoned prognosis and policy recommendations.

Basic Questions:

- What is the current macroeconomic situation in the U.S.?
- What is the likely prognosis for the next 12 to 24 months?
- What are your economic policy recommendations?

Criterion	Distinguished	Exceeds Expectations	Meets all Expectations	Meets some Expectations	Unsatisfactory	Missing or fails minimum req
Structure	10	8	6	4	2	0
Meets all minimum requirements						
Executive summary is effective & concise						
Introduction clearly lays out a roadmap for the paper and places the information in context						
Body addresses all the Basic Questions, includes the argumentation and data						
Conclusion provides summary and closure						
Content						
Knowledge	30	24	18	12	6	0
Command of existing economic knowledge						
Use of terms, theories, and data are						
Informed judgment demonstrated by selection of terms, theories and data (shown by the exclusion irrelevant and inclusion of						
Argumentation	40	32	24	16	8	0
Argument flows logically so that early statements lay the foundation for later statements and the reader is guided through the arguments						
Appropriate application of theory is used to make argument; clearly links theory and data to conclusions						
Arguments are persuasive focuses on key points, does not wonder, uses no unnecessary verbiage						
Alternative policies, arguments, conclusions and generalizations are noted where they exist and addressed; differences of opinion, supported by evidence, are also discussed						
Data used is reliable, valid, and pertinent; it provides effective support; no superficial information or tangential data muddies the argument						
Striving for Excellence and Creativity	20	16	12	8	4	0
Presentation is neat and professional; all visuals used are well labeled, clear, and effective conveying information better than words; text contains no errors and is easy to read & understand						
Creativity – the paper clearly holds the imprint of the author. Original thought is demonstrated by innovative organization, the integration of concepts and ideas, the use of new approaches, the novel use of visuals, or						

Thanks to Dr. Richard Stratton of the University of Akron for permission to use this example.

Applications Card

DIRECTIONS: Please take a moment to recall the ideas, techniques, and strategies we've discussed -- and those you've thought up -- to this point in the session. Quickly list as many possible applications as you can. Don't censor yourself! These are merely possibilities. You can always evaluate the desirability and/or feasibility of these application ideas later.

*Interesting
IDEAS/TECHNIQUES
from this session*

*Some possible
APPLICATIONS of those
ideas/techniques to my work*

Reference: Angelo, T.A. & Cross, K.P. (1993). Classroom Assessment Techniques: A Handbook for College Teachers, 2nd edition. San Francisco: Jossey-Bass, pp. 236-239.

Seven Premises underlying this workshop session

1. Assessment is one element in a wider academic reform movement aimed at improving teaching effectiveness and quality of learning outcomes.
2. With a few notable exceptions, assessment efforts have failed to: engage most faculty and administrators, become integral aspects of academic culture, or result in improved learning outcomes.
3. Assessment efforts will improve educational quality and productivity if and only if they engage a significant percentage of faculty and administrative opinion leaders.
4. Productive, influential faculty will take assessment seriously only if they find it intellectually engaging, professionally rewarding, and effective.
5. To be intellectually engaging, professionally rewarding, and effective, assessment must be seen as scholarly and consequential work
6. To be accepted, valued, and credible, assessment efforts must be designed and implemented according to valid, widely accepted standards of scholarly work – such as the six Carnegie Criteria – and must be connected to budget and reward systems.
7. From the faculty point of view, courses and programs are the most meaningful “units of analysis” on which to focus assessment efforts.

Failure in Assessment/Academic Reform often involves

- Inadequate or poorly understood conceptual models
- Lack of a shared “vision worth working toward”
- Piecemeal and episodic implementation
- Inadequate resources – human, fiscal & other
- Inadequate (nonexistent) change leadership and management

Lasting Success in Assessment/Academic Reform requires

- Shared individual and institutional priorities/goals
- Good fit with existing values and culture
- Effective leadership and followership
- Long-term planning, flexible design, and change management
- Adequate resources – human, fiscal & other
- Well-aligned systems and processes
- Scaffolding and support for change

WHAT MATTERS MOST IN STUDENT LEARNING & SUCCESS?

A Few Well-supported Generalizations from Research on Teaching and Learning in Higher Education

First impressions matter . . . and tend to last.

Expectations matter . . . and can be influenced.

Motivation matters . . . and can be enhanced.

Prior knowledge and beliefs matter . . . and
can derail or enhance learning.

Connections matter . . . both intellectual and
emotional.

Collaboration matters . . . and involves skills
that can be taught and learned.

Organisation matters . . . more to novices than
to experts, who can provide their own.

Feedback matters . . . if we are motivated, know
how, and have opportunities to use it.

Active engagement matters . . . in the end, what
learners do matters more than what *teachers* do.

Seven Common Misperceptions about Assessment and Seven Reasonable Responses

1. We're doing just fine without it.
 - *OK, then let's use assessment to find out what works, and to help us document and build on our successes.*
2. We're already doing it.
 - *OK, then let's audit all the assessments we already do to discover what we know and what we don't.*
3. We're far too busy to do it.
 - *OK, but since we're already doing it, let's use assessment to see where and how we can save time and effort.*
4. The most important things can't/shouldn't be measured.
 - *And not everything measurable should be measured, but let's see if we can agree on how we can tell when we're succeeding in these most important things.*
5. We'd need more staff and lots more money.
 - *Since we're unlikely to get more resources: how, what, and where can we piggyback, embed, and substitute?*
6. They'll use the results against us.
 - *They might. So, let's build in strong safeguards against misuse before we agree to assess.*
7. No one will care about or use what we find.
 - *To avoid that, let's agree not to do any assessments without a firm commitment from stakeholders to use the results.*

Select References

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Mini-Evaluation Form

Tom Angelo's Friday Morning Workshop at NAU

1. Please rate the overall quality of this session on the scale below:

1	2	3	4	5
awful	poor	acceptable	good	excellent

2. Please rate the overall usefulness of the session below:

1	2	3	4	5
useless	not very	somewhat	very	extremely

3. What did you find most useful/helpful? (Please be specific.)

4. How could it have been improved? (Please be specific.)

5. What kind of follow up at NAU would be most helpful?

Thanks for your time, consideration, and feedback.

Tom Angelo