GIVING FEEDBACK AS IF LEARNING MATTERS MOST
HOW LESS CAN OFTEN BE MORE

Materials for a Concurrent Workshop in
THE 2009 ASSESSMENT INSTITUTE IN INDIANAPOLIS

3:45 to 5:00 PM on Monday 26 October 2009

Tom Angelo
Professor of Higher Education and Director
The Curriculum, Teaching and Learning Centre
Pro Vice-Chancellor (Curriculum & Academic Planning)
La Trobe University – Melbourne, Australia

email T.Angelo@latrobe.edu.au

A Few Questions We Might Consider . . .

1. *Why do learners need feedback?*
2. *What kind of feedback do learners need?*
3. *Does it matter what kind they want?*
4. *How much is enough?*
5. *How often is often enough?*
6. *How can we make it effective and efficient?*
7. *How can we ensure that it's taken seriously?*
8. *Does it all have to come from academics?*
9. *Should it all be one way?*

The Minute Paper

Please answer each question in 1 or 2 sentences:

1) What was the most useful or meaningful thing you learned during this session?

2) What question(s) remain uppermost in your mind as we end this session?

Reference: Angelo, T. A. & Cross, K. P. Classroom Assessment Techniques: A Handbook for College Teachers, 2nd edition. San Francisco: Jossey-Bass, 1993, pp. 148-153.

*The "Muddiest" Point**

What was the "muddiest" point in this session?
(In other words, what was least clear to you?)

* Developed by Frederick Mosteller, a distinguished emeritus professor of statistics at Harvard University. For a detailed account of its development and use, see his article, *The "Muddiest Point in the Lecture" as a Feedback Device* in On Teaching and Learning:The Journal of the Harvard-Danforth Center, Vol. 3, April 1989, pp. 10-21.

Reference: Angelo, T. A. & Cross, K. P. Classroom Assessment Techniques: A Handbook for College Teachers, 2nd edition. San Francisco: Jossey-Bass, 1993, pp. 154-158.

A Revision of Bloom's Taxonomy

(From Anderson & Krathwohl, 2001)

CREATE

Generate, Plan, Synthesize, Produce the New

EVALUATE

Critique or Judge based on Explicit Standards/Criteria

ANALYZE

Break Down, Relate Parts & Whole, Organize

APPLY

Follow Procedures to Solve Problems or Carry Out Tasks

UNDERSTAND

Connect New Learning to Prior Knowledge by Interpreting, Classifying, Comparing, Summarizing, etc.

REMEMBER

Elaborate, Encode, and Retrieve Information from Long-term Memory

Reference: 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

Seven Levers for Deeper Learning

Research indicates that virtually all students can learn more – and more deeply – if we help them to . . .

Become explicitly aware of their own relevant prior knowledge, beliefs, preconceptions, and values – and be willing to unlearn, as needed

Set and maintain realistically high and personally meaningful learning goals and expectations for academic success

Learn how to learn effectively – given their own individual histories, talents, preferences, and goals – so they become increasingly self-directed and independent learners

Understand the criteria, standards, and methods used in assessing and evaluating their learning and get useful, timely feedback on their performance against those standards

Seek and find connections to and real-world applications of concepts and skills they are learning in class

Collaborate regularly and productively with other learners and with teachers to achieve meaningful, shared learning goals

Invest as much actively engaged time and high-quality effort as possible in their academic work

Learning Objectives and Outcomes Statements

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

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

   A. Demonstrate enhanced knowledge of the basic tenets of phrenology and its history.

   B. Demonstrate understanding of current best practice– in Britain of the 1830s–of phrenology

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 summarize the key contributions of at least six major figures in the history of phrenology

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

   A. Correctly locate and label all 35 organs on a map of the skull

   B. Phrenologize three subjects in one hour, summarize 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 Springfield Phrenological Society and evaluation by the members.

   [Presentation quality must be rated "Very Good" or "Excellent" by at least 80% of those Society members in attendance.]

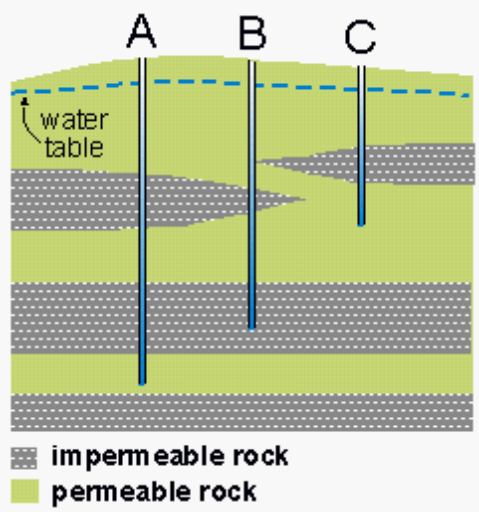
Political Science 100, Section 20 -- T.A. Angelo -- 1/28/91

Background Knowledge Probe #1

In response to each name, term, or concept in bold print below, circle the number that best represents your current knowledge:

	No. of Responses
1. Federalism	
(1) Have never heard of this	0
(2) Have heard of it, but don't really know what it means	14
(3) Have some idea what this means, but not too clear	15
(4) Have a clear idea what this means and can explain it	1
2. Separation of Powers	
(1) Have never heard of this	1
(2) Have heard of it, but don't really know what it means	6
(3) Have some idea what this means, but not too clear	18
(4) Have a clear idea what this means and can explain it	5
3. Republic	
(1) Have never heard of this	0
(2) Have heard of it, but don't really know what it means	5
(3) Have some idea what this means, but not too clear	23
(4) Have a clear idea what this means and can explain it	2
4. The *Constitution* of the U. S.	
(1) Have never heard of this	0
(2) Have heard of it, but don't really know what it means	2
(3) Have some idea what this means, but not too clear	8
(4) Have a clear idea what this means and can explain it	18
5. The *Articles of Confederation*	
(1) Have never heard of this	7
(2) Have heard of it, but don't really know what it means	13
(3) Have some idea what this means, but not too clear	6
(4) Have a clear idea what this means and can explain it	4
6. James Madison	
(1) Have never heard of this person	3
(2) Have heard of him, but don't really know who he was	8
(3) Have some idea who this was, but not too clear	15
(4) Have a clear idea who this was and can explain	4

Conceptest



Liquid hazardous waste is disposed of by pumping it down injection wells.

Which well location would be the most suitable to use for an injection well?

Why?

A B C

Thanks to Dr. David McConnell, Prof. of Geology at the University of Akron, for the example above.

STATISTICS FOR EVERYDAY LIFE – SPRING 2004 - ANGELO

FIRST CONCEPT REVIEW: *STANDARD DEVIATION*

Circle the one variable in each row that you would expect to have the largest relative standard deviation:

1.	adult humans' heights	adult humans' weights
2.	domestic dogs' weights	domestic cats' weights
3.	oral language skills of 12-yr-olds	math skills of 12-year-olds
4.	hours students spend in this classroom	hours students spend studying for this class

AN EXAMPLE OF GRADING STANDARDS

First-Year Writing Seminar
EN 010-01 -- T. A. Angelo
Boston College – Fall 1993

Grading Standards for Writing in Seminar Portfolios

"A" work (1) Responds fully to the assignment given;
(2) Expresses its purpose clearly and persuasively;
(3) Is directed toward and meets the needs of a defined audience;
(4) Begins and ends effectively;
(5) Provides adequate supporting arguments, evidence, examples, and details;
(6) Is well-organized and unified;
(7) Uses appropriate, direct language;
(8) Correctly acknowledges and documents sources;
(9) Is free of errors in grammar, punctuation, word choice, spelling, and format;
(10) Maintains a consistent level of excellence throughout, and demonstrates originality and creativity in realizing (1) through (7).

"B" work Realizes (1) through (9) fully and completely–and demonstrates overall excellence–but shows little or no originality or creativity.

"C" work Realizes (1) through (9) adequately–and demonstrates overall competence–but contains a few, relatively minor errors or flaws. A "C" paper may show great creativity and originality, but those desirable qualities do not make up for poor or careless writing. A "C" paper usually looks and reads like a next-to-final draft.

"D" work Fails to realize some elements of (1) through (9) adequately–and contains several, relatively serious errors or flaws, or many minor ones. A "D" paper often looks and reads like a first or second draft.

"F" work Fails to realize several elements of (1) through (9) adequately–and contains many serious errors or flaws, and usually many minor ones, as well. An "F" paper usually looks and reads like a zero draft.

A SIMPLE ASSESSMENT/GRADING RUBRIC

Title of assignment: _____ Author: _____ Date: _____

(1) Responds fully to to the assignment	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
(2) Expresses its purpose clearly and persuasively	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
(3) Is directed toward and meets the needs of a defined audience	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
(4) Begins and ends effectively	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
(5) Provides adequate supporting arguments, evidence, examples, and details	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
(6) Is well-organized and unified	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
(7) Uses appropriate, direct language	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
(8) Correctly acknowledges and documents sources	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
(9) Is free of errors in grammar, punctuation, word choice, spelling, and format	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
(10) Maintains a level of excellence throughout	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
Shows originality and creativity in realizing (1) through (7)	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR
OVERALL EVALUATION	EXCELLENT	VERY GOOD	ADEQUATE	FAIR	POOR

COMMENTS:

A More Detailed 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 demonstrates appropriate use of data and argumentation to support well-reasoned 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.

GROUP INFORMAL FEEDBACK ON TEACHING*
(The G.I.F.T. Technique)

***Directions:* Please write brief, honest, and legible responses to the questions below.**

(Do <u>not</u> write your name on this paper.)

1. What are 1 or 2 specific things your teachers does/ your classmates do that help you learn in this course?

2. What are 1 or 2 specific things your teacher does/your classmates do that hinder or interfere with your learning?

3. Please provide your teacher/your classmates with 1 or 2 specific, practical suggestions on ways to help you improve your learning in this course.

***Also known as Small Group Instructional Diagnosis (SGID)**

Reference: Angelo, T. A. & Cross, K. P. (1993). <u>Classroom Assessment Techniques: A Handbook for College Teachers</u>, (2nd ed.) San Francisco: Jossey-Bass, pp. 334-338.

SUGGESTIONS FOR GETTING AND USING *GROUP INFORMAL FEEDBACK on TEACHING*

Suggestions for Academic staff

1. Don't ask if you don't want to know.
2. Don't collect feedback if you don't have time to respond to it.
3. Do this early enough in the semester to allow time for changes.
4. Do pay attention to positive as well as critical feedback.
5. Do think through your response to the feedback carefully.
6. Do respond honestly and promptly to the students' feedback.
7. Do follow-up to see if your response makes any difference.

How to Gather Informal Feedback on Teaching

Arrange to work with a teaching colleague or academic development specialist whom you trust. When working with another staff member, it's usually a good idea to agree to trade visits. Schedule a date and time to visit each other's classes to collect feedback. Set aside at least 15 minutes of class time for this exercise. Let your students know what is going to happen, when, and why. Stress the value of honest, constructive feedback for improvement.

Before you visit the class: Schedule two meetings with your partner. Plan to meet for at least 15-20 minutes soon before and 45-60 minutes soon after the date of your classroom visit to go over the procedure.

When you visit the class: Your partner should introduce you to his or her class, and then leave. Remind students of what you are doing and why -- that is, gathering information to help their professor improve learning -- and assure them that their responses will remain anonymous. Let them know that you will summarize their responses and discuss them with their teacher. Review the procedure. Give students 10 minutes or so to respond, then collect the responses. Thank them and let them know when, more or less, they can expect to discuss the results.

After you visit the class: Read through the responses, looking for broad categories. Group similar responses together and list them, verbatim, under descriptive headings. If possible, type up a summary of the responses to give to your partner.

When you meet with your partner: Start by discussing student responses about what helps them learn. Then, discuss the responses to the question on what interferes with or hinders learning. Third, talk about the students' suggestions for improving teaching and learning and other options to achieve the same results. Before you end, make sure your partner has a plan for responding to the class.

Effective assessment for learning . . .

- Uses language and examples that are equally familiar to all those undergoing the assessment
- Focuses only what the learning goal/objective specifies
- Predicts relevant future behavior accurately
- Elicits consistent performance from learners & teachers
- Ensures academic integrity
- Is timely
- Is relevant to real world performance demands
- Is efficient for learners and assessors
- Is educative

Effective feedback for learning . . .

- Comes from credible and trusted sources
- Multiple, reinforcing sources
- Focused on work or behavior, not the person
- Criteria, not norm-referenced
- Descriptive, rather than evaluative
- Timely
- Iterative – part of a regular process
- Limited to what matters most
- Specific and concrete
- Possible to implement, given skills and time available
- Offers some choices
- Provides enough and strong enough evidence to support judgments and decisions made
- Involves self-assessment, as well

WHY GIVE LEARNERS FEEDBACK?

- TO IMPROVE PERFORMANCE & ACADEMIC SUCCESS
- TO INCREASE INTEREST & MOTIVATION TO LEARN
- TO ILLUMINATE AND UNDERMINE MISCONCEPTIONS
- TO PROMOTE SELF-ASSESSMENT
- TO DEVELOP INDEPENDENCE

TO USE FEEDBACK WELL, LEARNERS NEED M.O.M.

- MOTIVATION – *REASONS TO USE IT*
- OPPORTUNITIES – *FOR SAFE, GUIDED PRACTICE*
- MEANS – *KNOWLEDGE & SKILLS FOR IMPROVEMENT*

THE ORDER IN WHICH WE GIVE FEEDBACK MATTERS.

CONSIDER THE FOLLOWING FIVE STEPS:

1ST - GOOD NEWS: WHAT WAS DONE *WELL*
2ND - BAD NEWS: WHAT STILL NEEDS *IMPROVEMENT*
3RD - OPTIONS: WHAT *CAN BE DONE* TO IMPROVE IT
4TH - PLANS: WHAT THE LEARNER *INTENDS* TO DO
5TH - COMMITMENTS: WHAT BOTH PARTIES *AGREE* TO DO, *HOW, TO WHAT STANDARD, AND BY WHEN*

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 possible applications 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.

Fostering Critical Thinking

Approaches Well-Supported by Research

- Step-by-step Guided Practice
- Authentic Problem-solving
- Structured Collaboration
- Focused Communication
- Formative Feedback
- Guided Inquiry/Research

Hindering Critical Thinking

Approaches Contraindicated by Research

- Focus on rote learning
- Information overload
- One-shot assignments/assessments
- Meaningless assignments
- Norm-referenced (curved) marking
- Assessment fatigue

In other words, we are more likely to help students develop critical thinking skills if they are actively engaged in –

- Learning and practicing explicit processes for reasoning and communicating – whether the scientific method, the writing process model, a particular historical method, the nursing method, or _____
- Working in structured small groups to talk about and solve messy, authentic problems – with feedback, guidance, and evaluation from experts
- Making their assumptions, beliefs, and ideas explicit to themselves and others through writing and speaking
- Evaluating, explaining, supporting, and justifying their ideas – and those of others – through writing and speaking directed at relevant audiences

A Few Key References on Learning & Teaching

Anderson, L.W. & Krathwohl, D.R. (Eds.). (2001). A Taxonomy of Learning, Teaching, and Assessment: A Revision of Bloom's Taxonomy of Educational Objectives. New York: Longman.

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

Biggs, J. & Tang, C. (2007). Teaching for Quality Learning at University, 3rd Edition. Buckingham, UK: SRHE and Open University Press.

Boice, R. (1996). First-Order Principles for College Teachers: Ten Basic Ways to Improve the Teaching Process. Bolton, MA: Anker.

Bransford, J.D., Brown, A.L., & Cocking, R.R. (Eds.). (1999). How People Learn: Brain, Mind, Experience, and School. Washington, DC: National Academy Press.

Cross, K.P & Steadman, M.H. (1996). Classroom Research: Implementing the Scholarship of Teaching. San Francisco: Jossey-Bass, 1996.

Halpern, D.F. (1996). Thought and Knowledge: An Introduction to Critical Thinking, (3rd ed.). Mahwah, NJ: Erlbaum.

Hattie, J. & Temperley, H. (2007). The Power of Feedback. Review of Higher Education, 77(1), 81-112.

McKeachie, W.J & Associates. (2002). Teaching Tips: Strategies, Research, and Theory for College and University Teachers, 11th Edition. Boston: Houghton Mifflin, 2002.

Ramsden, P. (2003). Learning to Teach in Higher Education, (2nd Ed.). London, New York: RoutledgeFalmer, 2003.

Walvoord, B.E. & Anderson, V. (1998). Effective Grading: A Tool for Learning and Assessment. San Francisco: Jossey-Bass.

Weimer, M. (2002). Learner-Centered Teaching: Five Key Changes to Practice. San Francisco, CA: Jossey-Bass.

And a Few Useful Websites

The Carnegie Foundation for the Advancement of Teaching. http://www.carnegiefoundation.org/home.htm

The National Center for Academic Transformation. http://www.thencat.org

The IDEA Center at Kansas State University. http://www.idea.ksu.edu/

The National Institute for Science Education (NISE) Field-tested Learning Assessment Guide (FLAG). http://www.flaguide.org/

The Science Education Resource Center (SERC) at Carleton College–Concept Tests. http://serc.carleton.edu/introgeo/interactive/conctest.html.