

How Well Are Students Learning What We're Teaching?

An Introduction to Formative Classroom Assessment

Handout for the Afternoon Workshop in the University of Toledo's

2017 University Assessment Day

1:30-3:30 PM on 5 April 2017

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I. Interest Polling

Please circle the two or three questions below which most interest you.

1. ***What is formative feedback?***
 2. ***Why do learners need feedback?***
 3. ***Why do learners so often ignore feedback?***
 4. ***What kinds of feedback do learners need?***
 5. ***When is feedback most effective?***
 6. ***Whose feedback is most effective for what?***
 7. ***How can we ensure our feedback is taken seriously?***
 8. ***How can we be most efficient in giving feedback?***
 9. ***Write in your own question(s):*** _____
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II. Goal Ranking and Matching

Morisano, D., et al. (2010)

What specifically do you hope to learn/gain through participating in this afternoon's workshop?

Your Learning Goals/Burning Questions for this workshop

III. Plus-Minus-Question Mark Technique – Assessing Prior Knowledge

Some key terms and concepts that *might* be of use . . .

- Formative and summative assessment
 - Intrinsic and extrinsic motivation
 - Prior knowledge, beliefs and attitudes
 - Motivated reasoning
 - Confirmation bias
 - Cognitive load
 - Metacognition
 - Deliberate practice
 - The “Feedback Sandwich”
 - Novice-Expert differences
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IV. The RSQC2 Technique

Angelo, T. & Cross, K.P. (1993)

- Recall
- Summarize
- Question
- Comment
- Connect

Collaborative Learning Technique (CoLT) #1 Freeman, et al. (2014)

Buzz Groups

Useful for stimulating engagement in discussions and, and encouraging students to rehearse, express, and compare their ideas, perceptions, opinions, and/or reactions with others.

Estimated Time and Effort Required for

Faculty to prepare this CoLT	LOW
Students to use this CoLT	LOW
Faculty to assess/follow up	LOW

Complexity	LOW
Risk of Failure	LOW

Duration and Location 10-20 minutes/In class or online

Group Size and Structure Triads to Quintets Informal/Little or no pre-organizing

Description

Buzz groups give students the opportunity to exchange ideas, opinions, and information in a low stress environment. Because buzz groups can build interest in and enthusiasm for a subject, they are useful in introducing a new topic and in assessing students' prior knowledge or beliefs about that topic.

Buzz Groups can also serve as in-class lead ins to out-of-class assignments.

Procedure

1. The instructor prepares a list of open-ended discussion questions that will tap students' ideas, prior knowledge, or opinions about the topic at hand. These should be questions for which there is no one correct answer.
2. In the context of a semi-structured, time-limited conversation, small groups of students discuss their responses to the prepared questions. It may be useful to assign roles such as time keeper, summarizer, and reporter.
3. Groups summarize their responses – including the range of agreement and diversity – and report them to the instructor in writing and/or, if useful, to the entire class, orally. Alternately, in a large class, the instructor can sample responses from a few groups.

Reference: Barkley, E.F., Cross, K. P. & Major, C.H. (2005). *Collaborative Learning Techniques: A Handbook for College Faculty*. San Francisco: Jossey-Bass,112-116.

The Minute Paper

Please answer each question in 1 or 2 sentences:

1) What were the most useful or meaningful things 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?)**

* This Classroom Assessment Technique was developed by Dr. Frederick Mosteller, a distinguished 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.

Collaborative Learning Technique (CoLT) #2

Think-Pair-Share

This collaborative learning technique (CoLT) is useful for stimulating engagement in discussions, checking students' understanding of concepts, and encouraging students to rehearse, express, and compare their understandings with those of others

Estimated Time and Effort Required for

Faculty to prepare this CoLT	VERY LOW
Students to use this CoLT	VERY LOW
Faculty to assess/follow up	VERY LOW

Complexity	VERY LOW
Risk of Failure	VERY LOW

Duration and Location 5-15 minutes/In class

Group Size and Structure Pairs or triads/Informal/No pre-organizing needed

Description and Purpose

The name of this CoLT, "Think-Pair-Share," captures the essential steps.

In response to a question(s) posed by the instructor, students think and perhaps write on their own for a few minutes, quickly pair up with classmates, and then share, discuss, and compare their responses in pairs before responding to the instructor or sharing with the entire class. This technique provides students with the opportunity to formulate responses and practice communicating them with their peers. Since Think-Pair-Share can dramatically improve students' willingness and readiness to participate, it is often used as a "warm up" or "step up" to a whole class discussion.

Procedure

1. Pose an engaging question(s) to the class, giving students ample time to think individually about the question(s) and to devise individual responses.
2. Ask students to pair with another student nearby to share responses and, if useful, to create a joint response by building on each other's ideas.
3. Ask the pairs to share their responses with the whole class. If time is limited and/or the class is large, randomly call on student pairs.
4. If appropriate, provide class with the correct or expert response – or refer them to the relevant source(s) – allowing them to check and, if needed, correct their individual and pair responses.

Feedback for Learning – Some Discussion Points

WHY GIVE LEARNERS FEEDBACK?

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

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

- **MOTIVATION – REASONS TO USE THE FEEDBACK**
 - **OPPORTUNITIES – FOR SAFE, GUIDED, PRODUCTIVE PRACTICE**
 - **MEANS – KNOWLEDGE & SKILLS REQUIRED FOR SELF-IMPROVEMENT, AND METACOGNITIVE SKILLS ARE CRITICAL IN THIS REGARD**
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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

Cooperative Learning Technique (CoLT) #3

Jigsaw

This CoLT is particularly effective in helping students master a large body of information that can be divided into discrete, though related, sub-topics. It puts into practice the adage, “To teach is to learn twice.” Variations of the Jigsaw have long been used by medical and law students.

Estimated Time and Effort Required	MEDIUM
Complexity	MEDIUM
Risk of Failure	MEDIUM

Duration and Location **30 minutes to several hours/In class or out of class**

Group Size and Structure **Triads to Quintet/Some pre-organising required**

Description

The name of this CoLT refers to jigsaw puzzles, in which a number of disparate pieces are brought together to form a coherent picture. Students learn best by teaching other students, and in the Jigsaw, each member of a team assumes responsibility for becoming the master and the teacher of one specific part of a topic, issue, or problem. This CoLT can help students learn new subject matter and/or provide opportunities for them to practice solving complex problems. It’s particularly useful in courses where students are required to master a large body of information. Jigsaw also creates opportunities for equal participation and achievement; since each student has the chance to be in the spotlight. It requires that students assume responsibility for their learning, gives them double exposure to material, and allows for peer coaching. It also requires positive interdependence, since all members of the group need each other – and need to collaborate effectively – in order to put all the pieces together and succeed individually.

Procedure

1. The instructor presents a list of related topics to be learned, making the division of the material into component parts clear. The number of topics should be equal to or a small multiple of the number of students in each group; and usually no more than 3-5 per person.
2. With the proviso that all assigned topics must eventually be learned by all students, learners may be given the option to identify topic preferences.
3. Students work in “expert” groups -- with the other students who have selected or been assigned the same topic(s) -- to master their common topic(s). They also must determine the best ways to help others learn the material they’ve mastered.
4. Once the expert groups have mastered their material, the class splits into new groups in which each student serves as the only expert on a specific topic(s). In these new “tutorial” or “study” groups, topic experts take turns teaching the material and leading the discussion.
5. When student groups indicate that they have gained a full knowledge and understanding of the topics covered, the professor holds a full class discussion on all topics or gives an assignment, quiz, or exam to assess their individual and collective learning.

Five Practical Strategies for More Effective Groupwork

- 1. Select tasks/assignments that can only be accomplished, or can be accomplished better by groups than individuals**

If a group task or assignment can be done by the ‘smartest’ or hardest working student in the group – it usually will be.

- 2. Select tasks/assignments that require groups or teams in the world outside higher education**

College courses provide a safe place for students to practice the real-world skills they’ll need after graduation, to fail at those initially, to get feedback and to improve.

- 3. Ensure that grading explicitly rewards both “better” group performance and individual preparation**

Well-prepared, diligent students may need motivation to work with others. Less-prepared or less diligent students may need motivation to prepare well and contribute their fair share.

- 4. Intentionally determine group size and make up**

Take control of the “social technologies” of your classroom.

Don’t allow birds of a feather to flock together if you want students to develop critical thinking, self-assessment, and/or appreciation of other viewpoints.

- 5. Make sure all group members have – or have access to – the skills & tools required to succeed**

Groupwork and teamwork are learned skills, not innate capacities.

To benefit from groupwork, students must first learn how to do it properly.

Groupwork Feedback Form

1. Overall, how effectively did your group work together on this assignment?
(circle the most appropriate response)

1 2 3 4 5
not at all poorly adequately well extremely well

2. How many of the five group members participated actively most of the time?
(circle the appropriate number)

0 1 2 3 4 5

3. How many of you were fully prepared for the groupwork most of the time?
(circle the appropriate number)

0 1 2 3 4 5

4. Give one specific example of something you learned from the group
that you probably wouldn't have learned on your own.

5. Give one specific example of something the other group members learned from you
that they probably wouldn't have learned without you.

6. Suggest one specific, practical change the group could make that could help improve
everyone's learning.

Reference: Angelo, T.A. & Cross, K.P. (1993). *Classroom Assessment Techniques: A Handbook for College Teachers*, 2nd edition. San Francisco: Jossey-Bass, pp. 349-351.

The GIFT – Gathering Informal Feedback on Teaching **A Mid-Semester Feedback Technique**

1. Please give two or three examples of specific things your instructor does that help you learn in this course.

At the end of each example, please indicate whether that specific thing is:

(1) Very important; (2) Somewhat important; or (3) Not very important in helping you learn.

2. Please give two or three examples of specific things your instructor does that hinder your learning in this course.

At the end of each example, please indicate whether that specific thing is:

(1) Very important; (2) Somewhat important; or (3) Not very important in hindering your learning.

3. Please suggest two or three specific, practical and constructive changes your instructor could make that would help you learn more effectively in this course.

At the end of each suggestion, please indicate whether that specific change is likely to be:

(1) Very important; (2) Somewhat important; or (3) Not very important in improving your learning.

4. Any further comments?

The Pro-Con-Question Technique

Pros – Quickly list potential pros/benefits/advantages of *The GIFT Technique*.

Cons – Now, list potential cons/costs/disadvantages of *The GIFT*.

Questions – What remaining questions do you have about *The GIFT*?

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***

A FEW USEFUL REFERENCES ON CURRICULUM, ASSESSMENT & LEARNING

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Afternoon Workshop Feedback Form

Overall Feedback – Please circle the rating for each item which best represents your experience and evaluation of this workshop.

1. Overall, the value of what I learned in this workshop is

5	4	3	2	1
Very High	High	Adequate	Low	Very Low

2. Overall, the quality of this workshop is

5	4	3	2	1
Very High	High	Adequate	Low	Very Low

3. Overall, I rate this workshop leader's effectiveness as

5	4	3	2	1
Very High	High	Adequate	Low	Very Low

Comments on this workshop

4. Which two or three specific aspects of this workshop were most useful/helpful/interesting?

5. Which specific aspects could have been improved?

6. What possible follow-up, if any, from the University of Toledo might be helpful?