Teaching Tips Collection

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Collection Compilation by Victoria Kendziora
Supported by Judith Ableser, CETL Director

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Introduction

The Center for Excellence in Teaching and Learning (CETL) at Oakland University is pleased to share this collection of more than 50 Teaching Tips.

In workshops, conferences, and teaching and learning faculty development, we often take away a small teaching tip that helps us better facilitate group work, engage more students in discussions, and motivate students to be prepared for class. We would like to offer that "Aha!" moment more often with our Weekly Teaching Tips.

Starting in Fall 2013, we have sent out a new Weekly Teaching Tip in a brief infographic that can be read and implemented that same week. These are linked to our Teaching Tips page, which offers the full content of each teaching tip. All of our Teaching Tips, more than 50 total, are found at **oakland.edu/teachingtips**.

This book offers our teaching tips all in one place and in print. Flipping through the tips offers a fresh perspective on how to engage students and promote their learning.

Teaching Tips come from the 2013-2014 and 2014-2015 Teaching Issues Writing Consortium, Oakland University's Instructional Fairs (2013, 2015), and OU faculty submissions.

We find that most instructors have at least one novel way of conducting class, facilitating discussion, using an interactive tech tool, or motivating learning. To celebrate the teaching Oakland University faculty do on our campus and disseminate such teaching excellence beyond the campus, we are collecting submissions for a Weekly Teaching Tips book. To submit a teaching tip, visit our Teaching Tips webpage.

In addition to each contributor, we gratefully acknowledge and appreciate the creative work of Christina Moore who designed each infographic and who organized and implemented this project. We also thank Victoria Kendziora for compiling this Teaching Tip Resource Collection.

Oakland University Contributors

Liz Shesko – *Syllabus Scavenger Hunt*

Terry Dibble – *Preparing for the Semester: SWOT Analysis*

Misa Mi – *Instructional Design for Motivation*

Justin Remeselnik – *Intertextual Instruction*

Laila Guessous – *Connection Class: Improving Student-Faculty Interaction*

Greg Allar – *Comics and Content*

Rebecca Cheezum – *Brain Muscle Circuit Training*

Barbara Penprase, Lynda Poly-Droulard, & Marla Scafe – *Collaborative Testing: Maintaining Rigor While Increasing Critical Thinking*

Kristine M. Diaz and Senthil K. Rajaskaran – *Mind Your MCQ's: Thought-Provoking Multiple Choice Questions for Peer-Teaching*

Joanne Lipson Freed – *A Carousel Activity for Student-Driven Group Discussion*

Melissa St. Pierre – *Thesis Swap and Sale: Reader-Centered Writing*

Laura Gabrion – *Tweet from Your Seat: Variations on Peer Review*

Christina Moore – *Students Sign up with Google Appointments* and *Progress Report Journals: Reflecting on Course Performance*

Greg Allar – *Courses that Go Places with Google Earth*

Rodney Nyland – *A Penny for Your Thoughts: Importance of Meaning in Studying*

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OU authored teaching tip

Starting the Semester

Syllabus Scavenger Hunt
"It's on the syllabus!"

Professors always complain about students not reading the syllabus. How many emails have we wanted to answer with "It's on the syllabus!"? We all go over the syllabus in the first class, but that oral input just doesn't seem to sink in. Instead, try having a syllabus scavenger hunt during the first or second class meeting.

Student groups find the answers to key questions using the syllabus.

Collect answers, and redistribute them to other groups for evaluating.

Invite follow-up questions on policy.

What happens if I'm absent more than X times?

What happens if I turn in a paper late?

What are the components of quality participation?

CETL adapted this material from Liz Shesko, Assistant Professor of History at Oakland University.*

In groups, have the students find the answers to particular key questions using the syllabus. The group that finishes first with all the questions correct, gets a prize (candy, a desk copy of text for the class, an extra excused absence). Collect them as the groups finish to determine which group was first. Then redistribute the answers to other groups for grading. Have students read the answer to each question and go over why it's right or wrong. At the same time, invite questions about the policy.

Sample questions:

What is this course about?
What will I learn in this course?
What happens if I'm absent more than X times?
What counts as an excused absence?
What do I need to bring to class each day?
What are the components of quality participation?
What happens if I turn a paper in late?
What happens if I miss an exam?
What is plagiarism?

What counts as academic misconduct?
Where I can find more information about plagiarism and citations?
When can I collaborate with other students in class?
What happens if I'm texting in class?
Where can I find help if I'm not understanding the course material?
Where can I find the readings?
How can I contact the professor?

Prior Knowledge Check
Engaging Students at the Beginning of the Semester

No student is a blank slate when they enter the classroom. They may know a lot about your content field before entering the class, or walk in with false knowledge or biases that place some barriers in their learning. Beyond the traditional ice-breaker, prep students and yourself by checking their prior knowledge on class content.

What do you know about (Insert your field here)?

Why do this?

1. It activates prior knowledge, requiring students to see how they might apply their experiences to class material (Pressley et al., 1992).

2. It demonstrates that you value what they may already know about the field.

3. It puts the responsibility on the students and illustrates that this class will require active participation.

CETL adapted this material from Dr. Michelle Jackson's contribution to the 2013-2014 Teaching Issues Writing Consortium.

Prior Knowledge Check

<u>Favorite Teaching Quote</u>: "A teacher is one who makes himself progressively unnecessary."
- Thomas Carruthers

<u>Contributed Activity</u>: On the first day of class, I like to ask students to write a 1-page response to the following question: "What do you know about (Insert your field here)?" I do this for multiple reasons:

- It activates prior knowledge, requiring students to pull from their experiences and see how they might apply those experiences to class material (Pressley et al., 1992).
- It demonstrates that I value what they may already know about the field.
- It puts the responsibility on the students and illustrates that this class will require active participation.

Near the end of the semester, I return these papers to the students, and have them respond to what they wrote previously. Students are usually surprised by their initial writings and by their ability to respond with what they have learned. This activity shows how much a student's conceptualization of a field can change in just 15 weeks. It also reminds me of the quotation above—and how quickly I become unnecessary, if I do my job well.

Good luck & happy teaching!

Resources:

Pressley, M., Wood, E., Woloshyn, V., Martin, V., King, A., and Menke, D. (1992). Encouraging mindful use of prior knowledge: Attempting to construct explanatory answers facilitates learning. *Educational Psychologist* 27(1), 91-109.

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To Text, or Not to Text. That is the question.
(with a book, not a phone)

"Do we really need the textbook?"

This increasingly frequent question stems from many factors, from strained education costs and experiences of not cracking a text's cover to an uncertainty about when and how to use the textbook when assessments are largely off of lectures. How do we acknowledge and meet these frustrations in a way that shows students their required text's purpose?

Go on a textbook scavenger hunt.

Discuss with students why you chose the book, and provide direction in how to use it. A scavenger hunt familiarizes students with how to use the text.

Visualize and compare data examples.

Emphasize and review key concepts.

Review important disclaimers and notes.

Follow and apply extended examples.

Self-assess with questions.
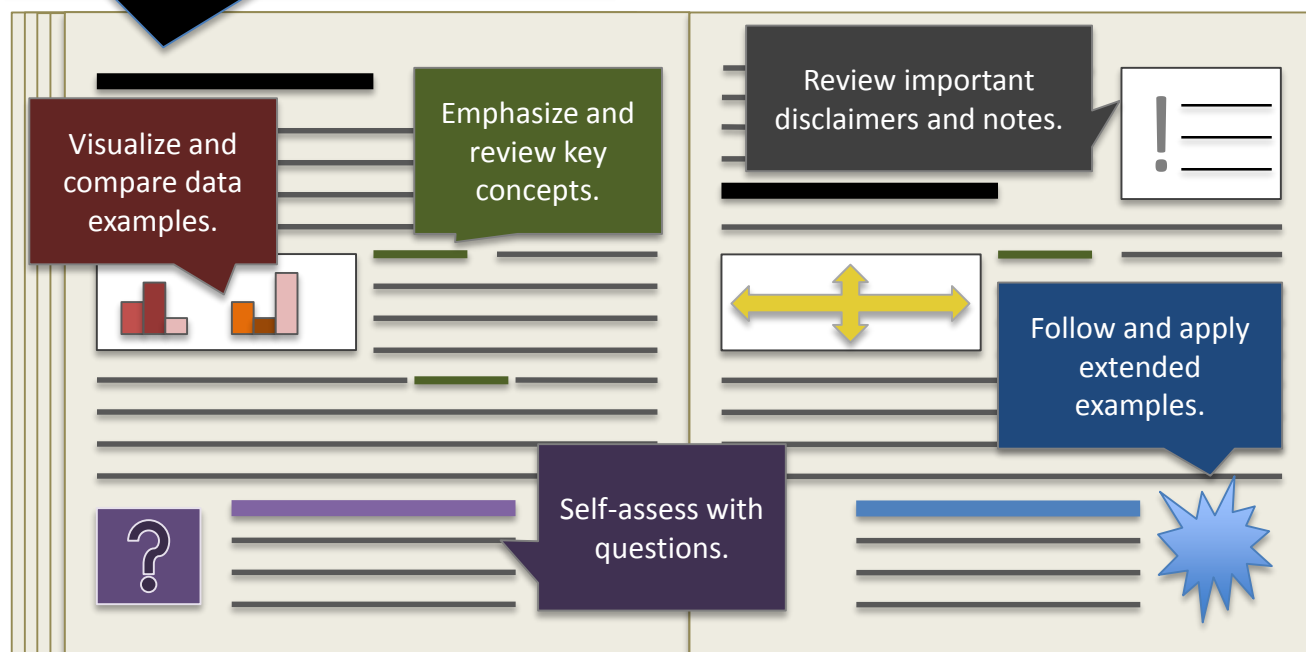
CETL adapted this material from Dr. Eylana Goldman Goffe's contribution to the 2014-2015 Teaching Issues in Writing Consortium.

To Text, or Not to Text (with a book, not a phone): That is the question.

When I was a college student (a significant number of years ago), every course I took came with a list of textbooks that was to be purchased prior to the first day of class. I didn't pay attention to the content of the book or its cost. I didn't even look to see if the instructor had marked it "required" or just "recommended." It was officially part of the course material and I anticipated needing all of those resources to be successful. I was an eager and academically-minded (i.e., nerdy) 18-year old freshman, who was fully funded by Mom and Dad, and whose only responsibility was to get good grades.

Now from my vantage point as a full-time professor at the Community College of Rhode Island, I can see that my college situation represents a fairy tale of circumstances that very few of my current students will ever enjoy. Their tuition comes from their salary, not Mom and Dad's, and is just one of their innumerable expenses. They have jobs to go to, bills to pay and children to support, sometimes parents too. Many of today's students have to make tough decisions about whether or not it is truly beneficial to invest in a textbook, not just their money but also their time.

In addition to the high price of textbooks, there seems to be a variety of reasons that students do not use, and therefore frequently decide not to buy, textbooks. First, in many courses, particularly lecture classes, the instructor covers all of the test material during lecture thereby making the textbook redundant. Why should a student "waste" time reading material in the book, when they can listen to it in lecture?

Students don't seem to understand that the purpose of textbooks is to provide an alternate presentation or explanation of the material, as well as a synthesis of concepts that may have been discussed separately in lecture. They can also serve as a reference for finding clarification of concepts that the student may not have fully grasped the first time through in lecture. Ultimately, students don't realize that repetition is a vital tool for learning.

Next, students have limited amounts of time to devote to their classes, so they tend to study their notes instead of reading the textbook. It's hard to deny that it's a more efficient use of time to review concise notes than to read through chunky paragraphs in long chapters. Students rarely consider that by neglecting their text, they are missing out on other content like graphs, tables and pictures. These are extremely valuable sources of information offered in a convenient and condensed presentation (just the way they like it).

Finally, some students quickly become frustrated trying to tackle the text because their reading level and comprehension skills are not compatible with the assigned textbook. When the mechanics of reading are painful to students, most will surely avoid the source of this pain. This problem hints at leniency in enforcing English placement test scores and course prerequisites and is often a larger college issue.

The reasons student don't buy and/or use their textbooks seem clear. So what can instructors do to address this problem beyond marking their text "required" in the bookstore? First, spend a few minutes on the first day of class explaining the reasons you chose the textbook, identify its strengths and weaknesses (nothing is perfect) and discuss the many ways it can benefit the student during the semester, including information about the importance of repetition and alternate explanations, as well as the value of the charts and graphs.

This may give the student an appreciation for the book's value and help them feel less resentful of its cost. Students seem to be naturally repelled by textbooks, so a colleague of mine assigns an activity "scavenger hunt" to help students orient themselves with the book's content and organization. The hope is that by establishing familiarity with the textbook at the semester's start, the student will feel more comfortable using the book for assignments and as a resource as the semester progresses.

A more direct approach is to create assignments that are specific to the book's content. The internet has made this a challenge. Most information is currently what I like to call "Googlable." As a result, many of my reading assignment questions are based on the pictures, diagrams and tables in the book, so the answers are text-specific. Some questions are as simple as "What color is the esophagus in Figure 2.1?" This can only be determined by actually looking at the picture. Although the answer "green" is meaningless, the information they took in when finding that answer is not. In other disciplines, the interpretation or commentary in the book may be specific enough to prevent Googling of the assignment's answers and missing out on all that the textbook has to offer.

A final approach is to include questions on exams that come only from the textbook and are never covered in lecture. I used to threaten to do this, but I quickly realized that it caused unnecessary anxiety among my students. The reality is that my lectures cover everything that I think is important enough to be on the exam. That doesn't mean that I don't expect my students to read their textbook and use it as a resource and study tool. They have text-based "reading assignments" for every chapter of the book we cover worth 5% of their final grade. I can't resist telling them it is the most important "texting" they'll do all semester!

Submitted by:
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Similar and Different: An Ice Breaker That Builds Community

Research on teaching and learning recommends that we integrate collaborative learning activities into the classroom to enhance student success. Prepare students for this collaborative community during the first few class sessions. This ice-breaker prepares students for frequent team activities by getting them to brainstorm their different interests and experiences until they arrive at similarities among all group members.
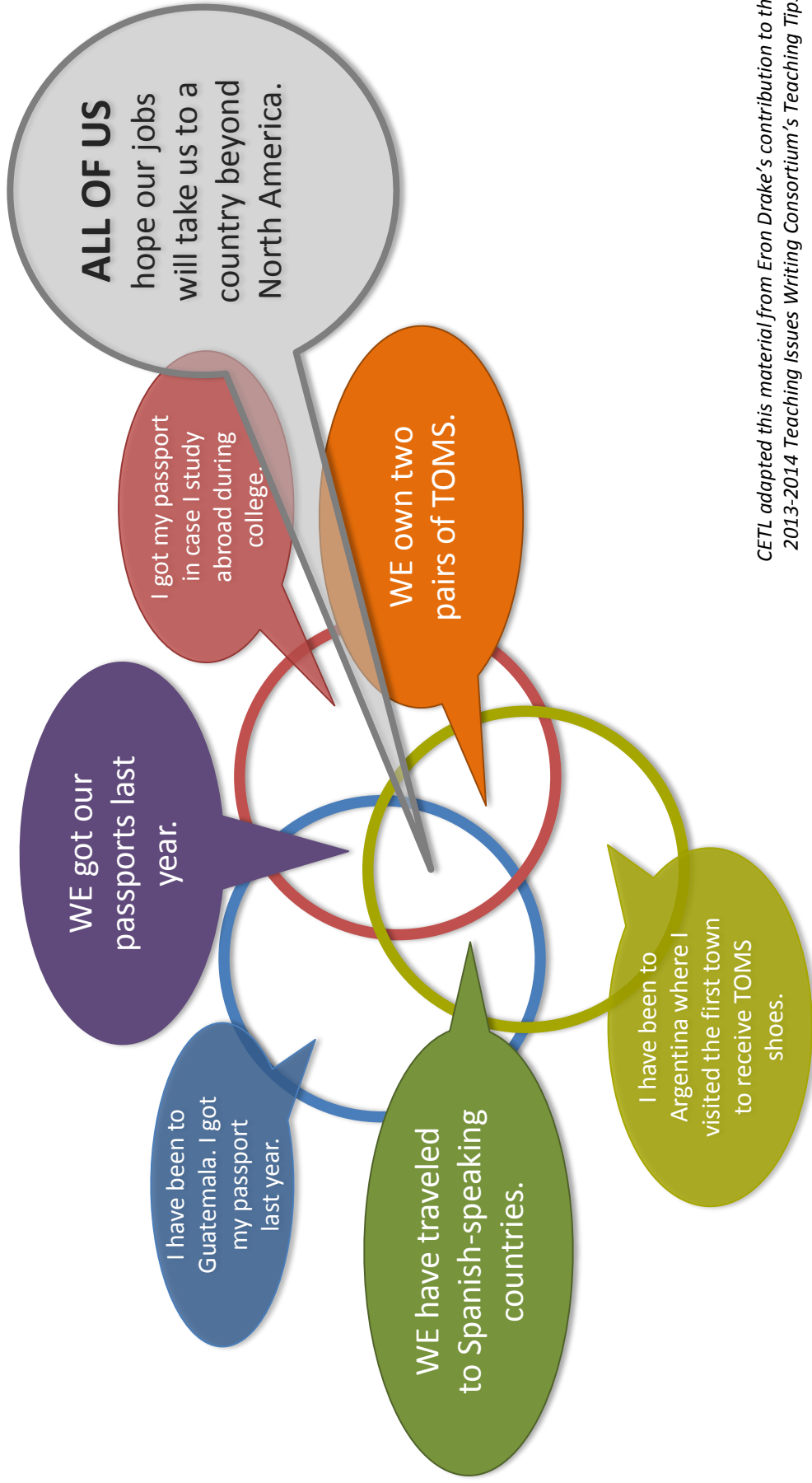
ALL OF US hope our jobs will take us to a country beyond North America.

I got my passport in case I study abroad during college.

WE own two pairs of TOMS.

WE got our passports last year.

I have been to Argentina where I visited the first town to receive TOMS shoes.

I have been to Guatemala. I got my passport last year.

WE have traveled to Spanish-speaking countries.

Similar and Different: An ice-breaker activity that builds community

Overview

Research on effective teaching and learning practices recommends that we integrate active and collaborative learning activities into the classroom to enhance student success (e.g., Barkley, Cross & Major, 2005; Johnson, Johnson & Smith, 2006; Prince, 2004). Yet, in order to expect students to work effectively, we need to plan purposeful activities that will enable students to build community and rapport with each other. This is especially important during the first few class sessions when we are setting the tone and expectations for our courses.

One of my favorite activities to get to know students and to help them get to know each other is an ice-breaker that I call "Same and Different[1]." Ice-breaker activities are critical to developing a positive classroom climate that is conducive to learning, especially through interactions among students (Magnam, 2005). Typically, I use this ice-breaker when my purpose will be to integrate frequent team activities and/or to have students participate in long-term team activities or projects.

Preparation

First, to clarify purpose, talk with students about the importance of collaboration or teamwork and share your rationale for integrating collaborative activities into your class. Next, provide a brief overview of this activity's importance (e.g., "This activity will help you to get to know your teammates.").

Procedure

1. Instruct the students that you will be dividing them into small groups. In each group, members will need to identify four things that they ALL share in common and four areas in which they are unique or different. In addition (time permitting), instruct each group to come up with a team name and a team theme song. Divide students into groups of three or four.
2. Distribute a large post-it or handout (see sample below) to each group. It is helpful to provide instructions on the handout or to project them on a screen.
3. Provide colored markers to each group.
4. Monitor the groups and encourage them to stretch beyond the obvious (e.g., "We all have brown eyes" or "We all are in Teacher Education.").
5. If a group finishes early, encourage them to try to find additional commonalities or ways in which they are unique. You could also ask them to pick a team mascot or other team-focused activity.
6. Debrief the activity.

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[1] The original source for this activity is unknown. I participated in this activity as a student in a course that was part of a Master in the Art of Teaching program at Aquinas College in Grand Rapids, Michigan. Since then, I have used it and refined it in my own courses and faculty development activities.

Tips
1. This works best with teams of four students.
2. Depending upon your goals for integrating collaborative learning in your classroom (short-term versus long-term teams), consider making visible how you group students into teams (e.g., Based on available student data, group students by discipline or group students randomly. For example, you could ask students to "find four others who have on similar shoes.")
3. Try to avoid giving prompts (e.g., "Do you all live in a residence hall?" or "Does anyone speak a foreign language?"). I find that students will often come up with very unusual characteristics if they are left to struggle a bit with this activity.
4. I usually don't assign roles with this activity. However, I would encourage that you consider asking for volunteers within the team to act as a scribe. This activity works best when students ask questions, probe, and listen to each other's answers.
5. Consider how you would like to debrief the activity. Do you want groups to share their team name and theme song? I typically ask groups to share their team name and what they have in common with each other, due to time constraints.
6. I keep all of the large post-its/handouts and review them to help me customize content for my class and/or to help me to better understand a particular group of students. In one class, I discovered that all of the members of one team shared that they had lost a family member recently.

Time Required
This activity takes about 20 – 30 minutes. Debriefing can take 10 – 20 minutes, depending upon the number of teams.

Online Alternatives
- Ask students to participate in this activity online by using a discussion board or a collaborative technology tool (e.g., Prezi or Popplet).
- If you use synchronous collaboration platforms such as Wimba or Blackboard Collaborate, you could assign teams to breakout rooms and then enable screen sharing to debrief their responses.

Resources:

Barkley, E. F., Cross, K. P., & Major, C. H. (2005). *Collaborative learning techniques.* San Francisco, CA: Jossey-Bass.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (2006). *Active learning: Cooperation in the college classroom.* (3rd Ed.). Edina, MN: Interaction Book Company.

Magnan, R. (2005). 147 practical tips for using icebreakers with college students. Madison, WI: Atwood Publishing.

Prince, M. (2004, July). Does active learning work? A Review of the research. *Journal of Engineering Education, 93*(3), 223-231. DOI: 10.1002/j.2168-9830.2004.tb00809.x. Retrieved from http://ctlt.jhsph.edu/resources/views/content/files/150/Does_Active_Learning_Work.pdf

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www.cmich.edu/about/leadership/office_provost/facit/Pages/default.aspx

SWOT Analysis
Strengths, Weaknesses, Opportunities, Threats

As we prepare to begin another semester, let's break the ice in a way that prepares students for a successful semester before its challenges arise. The SWOT analysis structures a plan not only for shortcomings (weaknesses and threats), but also the positive action to counteract those shortcomings (strengths and opportunities).

Strengths internal factors What are you really good at? What skills do you have that will assist you in being successful in this course? What do you do better than anyone else? What do others see as your strengths?	**POSITIVES**	**Opportunities** external factors What university resources are available to facilitate your success in this course? What other resources are available to you to facilitate your success in this course?
INTERNAL		**EXTERNAL**
Weaknesses internal factors What skills do you lack that may hinder you from being successful in this course? What personal traits do you have that may hinder your success? What do others see as your weaknesses?	**NEGATIVES**	**Threats** external factors What do you see as threats to completing this course? What is your greatest challenge from external factors in completing this course?

CETL adapted this material from Oakland University Special Lecturer of Health Sciences Terry Dibble, who adapted this business activity for the classroom.*

Strengths, Weaknesses, Opportunities, Threats (SWOT) Analysis

At the end of this document you will find links to three web pages, each one of which gives basic information about SWOT analysis. Generally, SWOT analysis is applied to strategic planning for a firm of some kind. Here, you are working on a strategic plan for completing this course. The idea is to analyze yourself with respect to your academic strengths, academic weaknesses, opportunities for achieving your goals, and threats to achieving your goals. Be thoughtful and succinct in your responses. Your responses should be in sentence format.

This assignment is best completed when you can be alone and spend time giving each area some deep thought.

You are expected to turn in your SWOT analysis; you can either write it in outline form or use a matrix as shown in some of the Web pages. The matrix (table) below is provided as an example; you can use it as a template if you would like.

Strengths (internal factors)	Opportunities (external factors)
• What are you really good at? • What skills and talents do you have that will assist you in being successful in this course? • What do you do better than anyone else? • What do others see as your strengths?	• What Oakland resources are available to facilitate your success in this course? • What other resources are available to you to facilitate your success in this course?
Weaknesses (internal factors)	**Threats (external factors)**
• What skills and talents do you lack that may hinder you from being successful in this course? • What personal behaviors/traits do you have that may hinder your success? • What do others see as your weaknesses?	• What do you see as threats to completing this course? • What is your greatest challenge from external factors in completing this course?

In addition to completing the SWOT analysis answer the following questions:

1. How can you use the strengths you have identified to overcome your weaknesses?
2. What are some strategies you can develop to minimize or overcome the threats you have listed?
3. How can the opportunities you have listed enhance your success in the class?
4. State one goal you would like to accomplish this semester. It can be related to this course or not.
5. Explain how you will achieve this goal.

You may be ready to begin writing your SWOT analysis now. However, if you would like more information about SWOT analysis before you begin to write, you may find the following links useful.
1. http://www.mindtools.com/pages/article/newTMC_05.htm
2. http://www.mycoted.com/creativity/techniques/swot.php
3. http://www.stfrancis.edu/ba/ghkickul/stuwebs/btopics/works/swot.htm

Submitted by:
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R.A.I.S.E Student Preparation
Making Sure They're Ready for Class

Why don't students read the homework?

Use R.A.I.S.E. criteria to plan how students prepare for class to better ensure students come to class prepared to learn and engage.

How can I get students to contribute thoughtful discussion?

R — REASON
If class is simply a replication of pre-class preparation, there is little reason for them to prepare. Have a good reason for them to prepare.

A — ACCOUNTABILITY
Hold students accountable for their preparation through quizzes, Just in Time Teaching techniques, and homework submission (graded or ungraded).

I — INTERACTION
Provide activities that encourage students to interact with material (study guide questions, case studies, etc.).

S — STUDENT-FRIENDLY
Students are novices. Material should be appropriate for the students' level. For example, high amounts of jargon discourage preparation.

E — EFFICIENT
Consider how much time students will spend outside of class preparing for the next class. Quantify this for students so that they can budget their time.

Planning for Teaching

Instructional Design for Motivation

For those teaching at 8 a.m. or teaching that subject everyone dreads, motivation is always a struggle that only the creative and entertaining professors seem to escape. Motivation in the classroom and in learning generally requires more than gimmicks and tricks, but can be designed in the structure of the course.
Keller (2007) provides this main framework for designing motivating courses.

AROUSE ATTENTION

- CAPTURE INTEREST
- STIMULATE INQUIRY
- HOLD ATTENTION

MAKE RELEVANT

- RELATE TO GOALS
- MATCH INTERESTS
- TIE IN EXPERIENCES

BUILD CONFIDENCE

- SET EXPECTATIONS
- GIVE OPPORTUNITY
- USE RESPONSIBILITY

INFUSE SATISFACTION

- MAKE INTRINSIC
- REWARD EFFORT
- TREAT FAIRLY

CETL adapted this material from Misa Mi's contribution to the 2015 Oakland University Instructional Fair.*

Instructional Design for Motivation

Strategies based on Keller's model of motivation design. The model is a systematic process for and heuristic approach to designing instruction to motivate learners.

Step-by-Step Instructions of Strategy

1. Attention strategies for arousing and sustaining curiosity and interest

Capture Interest (Perceptual Arousal): What can I do to capture learners' interest?

Strategies: using novel or unexpected approaches to instruction or injecting personal experiences and humor

Stimulate Inquiry (Inquiry Arousal): How can I stimulate an attitude of inquiry?

Strategies: stimulating curiosity by posting questions or problems to solve

Maintain Attention (Variability): How can I use a variety of tactics to maintain learners' attention?

Strategies: incorporating a range of methods and different forms of media to meet students' varying needs, or varying an instructional presentation

2. Relevance strategies that link to learners' needs, interests and motives

Relate to Goals (Goal Orientation): How can I best meet learners' needs? (Do I know their needs?)

Strategies: providing statements of utility along with the goals and objectives of instruction, or helping learner to define their own goals and statements of utility

Match Interests (Motive Matching): How and when can I provide learners with appropriate choices, responsibilities, and influences?

Strategies: matching objectives to student needs and motives

Tie to Experiences (Familiarity): How can I tie the instruction to learners' experiences?

Strategies: relating instruction to learners' experiences and values by providing concrete examples and analogies

3. Confidence strategies that help students develop a positive expectation for successful achievement

Success Expectations (Learning Requirements): How can I assist in building a positive expectation for success?

Strategies: informing students about learning and performance requirements and assessment criteria

Success Opportunities (Learning Activities): How will the learning experience support or enhance learners' beliefs in their competence?

Strategies: providing challenging and meaningful opportunities for successful learning

Personal Responsibility (Success Attributions): How will learners clearly know their success is based upon their efforts and abilities?

Strategies: linking learning success to students' personal effort and ability

4. Satisfaction strategies that provide extrinsic and intrinsic reinforcement for effort

> **Intrinsic Satisfaction (Self-Reinforcement):** How can I provide meaningful opportunities for learners to use their newly acquired knowledge and skills?
>
> > Strategies: encouraging and supporting intrinsic enjoyment of the learning experience
>
> **Rewarding Outcomes (Extrinsic Rewards)**: What will provide reinforcement to learners' success?
>
> > Strategies: providing positive reinforcement and motivational feedback
>
> **Fair Treatment (Equity)**: How can I assist learners in anchoring a positive feeling about their accomplishments?
>
> > Strategies: maintaining consistent standards and consequences for success throughout a course or training experience

The motivational design strategies can be used to design instruction to improve the motivational quality of any face-to-face classroom or online teaching. They can also be modified to create evaluation criterions to evaluate web-based learning resources.

References:

Driscoll MP. *Psychology of learning for instruction*. 3rd ed. Boston: Pearson Allyn and Bacon, 2005.

Keller JM. "Motivation and Performance." In *Trends and issues in instructional design and technology*, edited by Reiser RA, Dempsey JV, 82-92. Upper Saddle River, N.J.: Pearson/Merrill Prentice Hall, 2007.

Small R. "Motivation in Instructional Design." *ERIC Digest* 27, no. 5 (2000): 29-31.
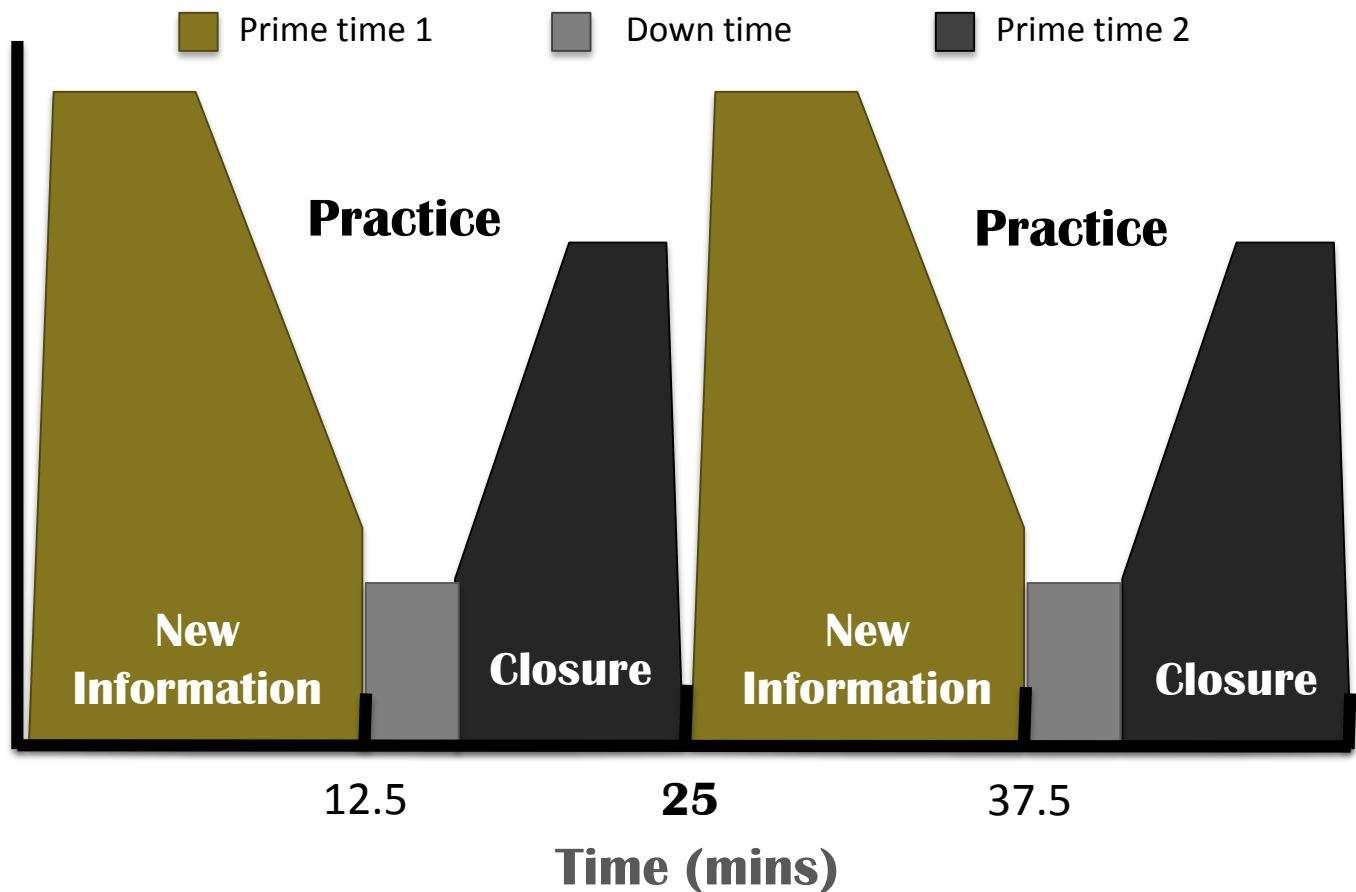
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Student Attention
Designing a Classroom Experience

Prime time 1   **Down time**   **Prime time 2**

Practice

New Information

Closure

Practice

New Information

Closure

12.5   **25**   37.5

Time (mins)

The First 10 Minutes
Retention of information occurs most at the beginning and end of lectures. Present good information at the beginning of a lecture when students give their full attention.

The Middle 5 to 10 Minutes
Attention is the lowest in the middle. Use this time to re-engage through practice, reinforcing new concepts and allowing for processing of the information.

The Last 5 to 10 Minutes
Attention increases at the end. Use the last part of a class for reflection and application of the new information.

References
Medina, J. (2008). *Brain rules.* Seattle, WA: Pear Press.
Sousa, D. (2006). *How the brain learns*. 3rd Ed. Thousand Oaks, CA: Corwin Press
Willingham, D. T. (2009). *Why don't students like school.* San Francisco, CA: Jossey-Bass

Small Changes to Improve Community and Evaluations

A well-organized, carefully planned course is critical for effective teaching, but attention to small details contributes to rapport with students and a classroom experience that supports effective learning. Corbett and LaFrance (2013) offer suggestions that improve the learning for students and the teaching experience for instructors.

Arrive Early
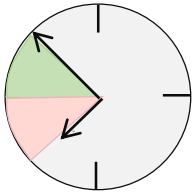
and Linger After Class.

Create a Positive Attitude

During Class Meetings

Respond Promptly
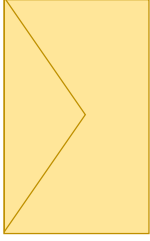
to Student Email Messages

Surrender Control of the Class
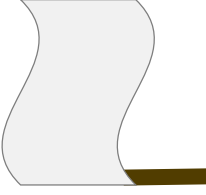
Occasionally

Remember to Tell Students

When They're Doing Well

CETL adapted this material from Claudia Stanny's contribution to the 2014-2015 Teaching Issues Writing Consortium's Teaching Tips.

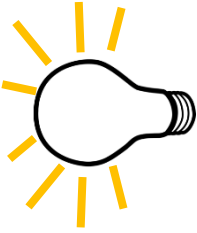# Small changes Can Improve Class Community and Student Course Evaluations

A well-organized, carefully planned course is critical for effective teaching, but attention to small details contributes to rapport with students and a classroom experience that supports effective learning. Corbett and LaFrance (2013) offer suggestions that improve the learning for students and the teaching experience for instructors.

- **Arrive early and linger after the class meeting time** – make adjustments to lighting, set up your technology for the session, chat with students before and after class to learn about events outside of class that might influence their in-class learning and continue topic-related conversations while you walk back to your office.
- **Create a positive attitude during class meetings** – leave your own life stresses at the door when you teach. We can't always be our best selves every day. Life stresses and department politics can intrude on our thoughts. But try to protect class time from these worries. Similarly, do not allow sullenness in students to ruin your enthusiasm. Your enthusiasm and attitude can be contagious, although the effect will not be immediate.
- **Respond promptly to student email messages** – you need not respond immediately. Tell your students when they can expect a response (on the first day of class, in your syllabus) and honor this promise.
- **Surrender control of the class occasionally** – choose your battles for control. Some activities and rules for class management are not negotiable. But if you can allow students to determine how some things work, you create a sense of community and shared responsibility for classroom learning. Identify class policies that you feel comfortable allowing students to determine what is acceptable. Explain why other activities or course policies cannot be altered.
- **Remember to tell students when they are doing well** – students need feedback to correct errors but they also need feedback to let them know when they are on track. Remember to recognize progress and successes.

When we adopt one or more of these small changes, teaching becomes a more pleasant and rewarding activity and our students become more engaged and motivated with the class.

Resources:
Corbett, S. J., & LaFrance, M. (September 9, 2013). It's the little things that count in teaching. *Chronicle of Higher Education.* [Retrieved 9-10-2013: http://www.Chronicle.com/article/Its-the-Little-Things-That/141489/?cid=at&utm_source=at&utm_medium=en]

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Learning through Cognitive Constructivism

The American Association for the Advancement of Science (2011) and others (Bransford et al., 2000) identify constructivism as a critical learning theory for the design of effective teaching methods. However, this term is often misunderstood and confused with concepts such as "social constructionism" (Hartle, Baviskar, & Smith, 2012).Cognitive constructivism has four major characteristics. Learning activities become more effective when we include these elements in the design of the activity.

Activate Prior Knowledge

Create SURPRISE

Apply and Evaluate the New Knowledge

Close with a Reflective Assignment

CETL adapted this material from Claudia Stanny's contribution to the 2014-2015 Teaching Issues Writing Consortium's Teaching Tips.

Use Elements of Cognitive Constructivism to Design Effective Learning Activities

The American Association for the Advancement of Science (2011) and others (Bransford et al., 2000) identify constructivism as a critical learning theory for the design of effective teaching methods. However, this term is often misunderstood and confused with concepts such as "social constructionism" (Hartle, Baviskar, & Smith, 2012).

Cognitive constructivism has four major characteristics. Learning activities become more effective when we include these elements in the design of the activity.

1. Activate prior knowledge – learning activities should elicit prior knowledge and engage students cognitively and emotionally with the topic. New learning is retained better when it is connected with existing knowledge structures; both new knowledge and existing knowledge can but be active in memory at the same time. Integration will not happen if the prior knowledge is not active and students experience the new knowledge in isolation. Instructors should be able to observe and interpret student's prior knowledge, including assumptions and misconceptions they might bring to the task. Select a meaningful activity that engages and motivates student interest; activities that only check whether students read the text or did their homework are not suitably engaging.

2. Create surprise – create learning activities that reveal disconnects between prior knowledge and the demands of the current task. Sometimes prior knowledge is incomplete and students are unable to solve a problem without additional knowledge. Sometimes prior knowledge is incorrect (misconceptions and false assumptions) and obstructs problem solving. Learning is most effective when circumstances violate our expectations and predictions (a surprising outcome, new information contradicts prior knowledge or beliefs). When we confront discrepancies created by inadequate information or misconceptions, we experience emotional discomfort (dissonance) that can motivate learning. However, instructors must handle this component with care. Too little discomfort will not motivate students to learn; too much discomfort will direct attention away from the learning activity and toward other behaviors that will reduce or eliminate the discomfort.

3. Apply and evaluate the new knowledge – students should apply the new learning to a variety of related problems and receive detailed formative feedback. These activities create opportunities to make any corrections needed. Repetition with a variety of problems provides practice and reinforcement for the learning. When possible, construct learning and practice tasks that provide self-correcting feedback as an integral part of the task. Tasks completed as a group frequently create opportunities for students to give effective feedback to their peers while completing the task.

4. Include a closing reflective assignment – require students to reflect on their learning experience. Students frequently complete learning activities without recognizing what they gained from these activities beyond completing a required assignment. When students can articulate what they have learned and how a learning activity contributed to their learning, they become more motivated to engage in similar learning activities. At the close of a learning activity, ask students to explain what they learned, what they are now able to do, describe how they did it, and describe why the activity was important for their learning.

Resources:
Hartle, R. T., Baviskar, S., & Smith, R. (2012). A field guide to constructivism in the college science classroom: Four essential criteria and a guide to their usage. *Bioscene, 38,* 31-34.
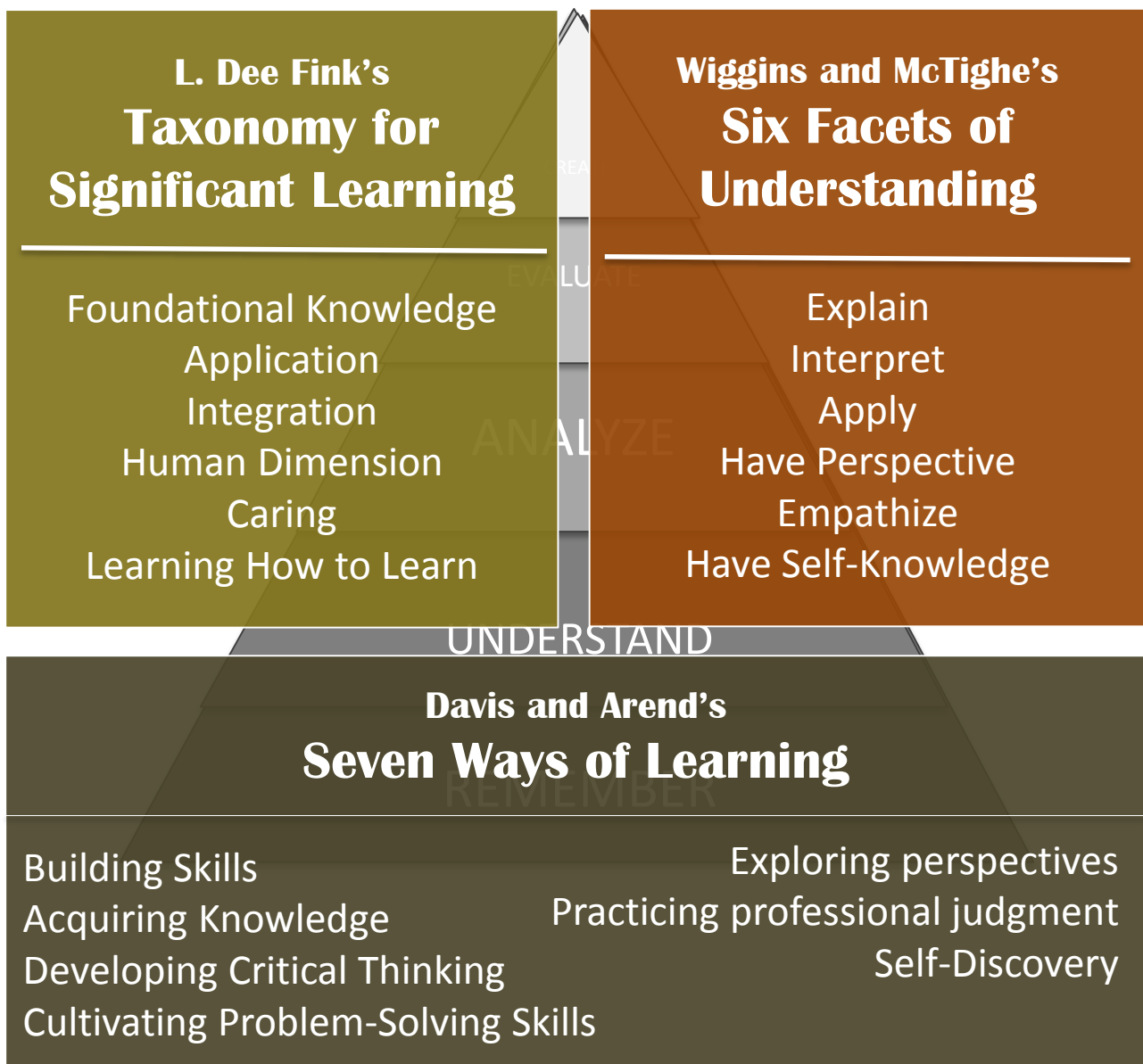
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Beyond Bloom
Expanding Our Ideas About Learning Objectives

If the goal of using Bloom's Taxonomy is to articulate and diversify our learning goals, why has writing learning objectives, considered to be an essential aspect of creating effective and engaging learning experiences, too often been viewed as an uninspiring task? Bloom's Taxonomy has been used for so long because it makes sense and is useful, but perhaps it is time we move beyond Bloom to explore all the types of learning we are trying to achieve in a college-level course.

L. Dee Fink's
Taxonomy for Significant Learning

Foundational Knowledge
Application
Integration
Human Dimension
Caring
Learning How to Learn

Wiggins and McTighe's
Six Facets of Understanding

Explain
Interpret
Apply
Have Perspective
Empathize
Have Self-Knowledge

Davis and Arend's
Seven Ways of Learning

Building Skills
Acquiring Knowledge
Developing Critical Thinking
Cultivating Problem-Solving Skills

Exploring perspectives
Practicing professional judgment
Self-Discovery

CETL adapted this material from Dr. Bridget Arend's contribution to the 2013-2014 Teaching Issues Writing Consortium.

Beyond Bloom: Expanding our ideas about learning objectives

Many college faculty have heard of Bloom's Taxonomy and have probably used one of the many helpful lists of accompanying verbs to craft measurable learning objectives. The six categories in Bloom's Taxonomy for the Cognitive Domain (revised in 2001) – **remember, understand, apply, analyze, evaluate, and create** – has been the go-to resource for writing learning objectives for over 50 years, assisting countless educators.

The goal of using Bloom's Taxonomy is to articulate and diversify our learning goals. So why has the writing of learning objectives, considered to be an essential aspect of creating effective and engaging learning experiences, too often been viewed as an uninspiring task? Shouldn't this be where our passion as teachers comes through? Could it be we are focusing on a limited aspect of learning?

Bloom's Taxonomy has been used for so long because it makes sense and is useful, but perhaps it is time we move beyond Bloom to explore all the types of learning we are trying to achieve in a college-level course.

Luckily there are other taxonomies we can use. In fact, Bloom's taxonomy of the cognitive domain is only one of the taxonomies created by Bloom and his colleagues. A quick Internet search will uncover the work begun by Bloom and furthered by other scholars in the **psychomotor** and **affective** domains.

Additionally, L. Dee Fink's Taxonomy of Significant Learning Outcomes goes beyond cognitive processes and includes other aims of teaching. Fink's taxonomy contains six aspects of learning:

- **Foundational Knowledge** – understanding information and ideas
- **Application** – developing critical, creative, or practical thinking skills
- **Integration** – making connecting between information, ideas, perspectives or real life
- **Human Dimension** - Learning about oneself or others
- **Caring** - Developing new feelings, interests, or values
- **Learning How to Learn** - Becoming a better student, inquiring about a subject

Similarly, Wiggins and McTighe's backwards design model describes Six Facets of Understanding:

- **Explain** – provide justifiable accounts of phenomena, facts, and data
- **Interpret** — tell meaningful stories, make subjects personal or accessible through images, analogies, and models
- **Apply** — effectively use and adapt what they know in diverse contexts
- **Have perspective** — see and hear points of view critically; see the big picture
- **Empathize** — perceive sensitively on the basis of prior indirect experience
- **Have self-knowledge** — show metacognitive awareness; perceive the prejudices, projections and habits of mind that shape and impede our understanding

Both of these taxonomies start with the foundational knowledge necessary for deeper learning, and allow us to tease out the type of thinking we want students to be doing. But both go beyond cognitive processes and application of knowledge to also explore some of the larger goals of our courses. Nearly all courses including some affective goals, whether it is a deeper appreciation of culture, or simply to change someone's deep dislike of math or feelings of inadequacy about writing. And nearly all courses should include some metacognitive aspects, helping students develop the habits necessary of a lifelong learner in the 21st century.

Once we have clarified and articulated all the various objectives in our course, we can then choose the most appropriate teaching and assessment methods. For example, lectures and presentations are well suited for the transfer of foundational knowledge and could be useful for some cognitive processes, but are not effective for promoting application skills or perspective taking or self-discovery. Davis and Arend provide yet another categorization that can help educators determine which teaching methods are best suited for which learning objectives:

- Building skills – supported through practice and feedback
- Acquiring knowledge – supported through presentations and explanations
- Developing critical, creative, dialogical thinking – supported through question-driving inquiries and discussions
- Cultivating problem solving and decision-making abilities – supported through problems, case studies, labs, projects
- Exploring attitudes, feelings and perspectives – supported through group activities and team projects
- Practicing professional judgment – supported through role playing, simulations, scenarios and games
- Self-discovery and personal growth – supported through reflection on experience

Which taxonomy you choose, or how you mix them together, might be a matter of personal choice. But articulating our goals beyond what we are used to describing will allow us to capture the entirety of what we are teaching, and perhaps become more passionate about our work. It's worth a look into some of these other taxonomies, beyond Bloom, that can help us with these larger goals.

Resources:

Anderson, L.W., Krathwohl, D.R., Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths J. & Wittrock, M.C. (2001) A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives, New York: Longman.

Bloom, B.S., Engelhart, M.D., Furst, E.J., Hill, W.H. & Krathwohl, D.R. (1956) Taxonomy of Educational Objectives: The Classification of Educational Goals; Handbook I: Cognitive Domain, New York: Longmans, Green.

Davis, J.R. & Arend, B.D. (2013) Seven Ways of Learning: A Resource for More Purposeful, Effective, and Enjoyable College Teaching, Sterling, VA: Stylus Publishing.

Fink, L.D. (2003) Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses, San Francisco: Jossey-Bass.

Wiggins, G. & McTighe J. (2005) Understanding by Design, Upper Saddle River, NJ: Pearson Education.

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Intertextual Instruction

Research suggests that student learning improves when course content is taught intertextually. In other words, rather than just teaching students about a single text (a book, film, an artwork, etc.), it is beneficial to encourage students to engage with numerous texts across several media platforms (literature, painting, sculpture, television, film, music, etc.), emphasizing their relationships both in homework assignments and in class discussions.

	BOOKS	JOURNALS	FILM	MUSIC	PAINTINGS
SURREALISM	André Breton Malcolm de Chazal		Luis Buñuel Salvador Dali	Mark Romanek's music video for Nine Inch Nails' "Closer"	Man Ray Max Ernst René Magritte
VIRTUAL REALITY					
JOHN F. KENNEDY					

Steps Toward Intertextual Instruction

1. When teaching a given text or concept, think of other texts that connect to the assigned content in interesting ways. Look for texts that are more accessible than the course material itself such as artworks, viral videos, magazine ads and TV commercials.
2. Incorporate the additional text(s) into lectures, class discussions, homework assignments, etc.

*CETL adapted this material from Oakland University's Justin Remeslnik's contribution to the 2013 Instructional Fair.**

Intertextual Instruction

Purpose, goal(s) or learning outcome(s) for strategy: Helping students to better understand the course content by showing its relationship to texts in a variety of different media.

Type of course: Undergraduate **Typical number of students in course:** 50

Ease in which strategy could be modified and/or applied to other courses: The strategy is particularly well suited to courses in the humanities, although it can be applied to other types of courses, as well.

Brief overview of strategy: Research suggests that student learning improves when course content is taught intertextually. In other words, rather than just teaching students about a single text (a book, a film, an artwork, etc.), it is beneficial to encourage students to engage with numerous texts across several media platforms (literature, painting, sculpture, television, film, music, etc.), emphasizing their relationships both in homework assignments and in class discussions. For example, when teaching the Surrealist writings of poets like André Breton and Malcolm de Chazal in my Modern Literature class, I ask students to engage with Surrealist artworks (including works by Man Ray, Max Ernst, and René Magritte), Surrealist films (such as Luis Buñuel and Salvador Dalí's *Un Chien Andalou*), and even relatively modern works inspired by Surrealism (e.g. Mark Romanek's music video for the Nine Inch Nails song "Closer"). This approach helps students to obtain a deeper understanding of Surrealism as a political and aesthetic movement, and it also keeps students engaged. (For example, a number of students who initially had little interest in poetry suddenly became involved when they saw the influence this movement had on modern music videos.)

Step-by-step instructions of strategy: (1) When teaching a given text or concept, think of other texts that connect to the assigned content in interesting ways. (It is often helpful to look for texts that are more accessible than the course material itself.) These may include artworks, viral videos, magazine ads, TV commercials, or any other works that are illustrative or useful. (2) Incorporate the additional text(s) into lectures, class discussions, homework assignments, etc.

Additional comments: Students are often quite adept at making intertextual connections themselves. Encourage them to do so, and feel free to borrow their ideas for future sections of the course. For example, after teaching *A Clockwork Orange* in my Modern Literature class (I teach both Anthony Burgess's novel and Stanley Kubrick's film adaptation), one student encouraged me to watch a recent episode of *South Park* that had alluded to a scene in Kubrick's film, while another directed me to an episode of *The Simpsons* with a similar homage. I thanked the students for their perceptiveness, found the relevant clips online, incorporated them into PowerPoint presentations, and used them in future classes.

Resources, citations, references for strategy: Nora Shuart-Faris & David Bloome (eds.), *Uses of Intertextuality in Classroom and Educational Research* (Charlotte, NC: Information Age Publishing, 2004); Carmen Luke, "Pedagogy, Connectivity, Multimodality, and Interdisciplinarity," *Reading Research Quarterly* 38.3 (2003), 397-403; Ulrike H. Meinhof & Jonathan Smith (eds.), *Intertextuality and the Media: From Genre to Everyday Life* (Manchester: Manchester UP, 2000); David Bloome & Ann Egan-Robertson, "The Social Construction of Intertextuality in Classroom Reading and Writing Lessons," *Reading Research Quarterly* 28.4 (1993), 304-333.

Name of course that strategy is being implemented into: ENG 111 (Modern Literature)

Faculty/Instructor's name: Justin Remeselnik **Email:** remeseln@oakland.edu

Identify Bottlenecks to Student Learning
to Develop Improved Learning Strategies

Student Learning

Procedural
Not mastering one step in the learning activity inhibits progress.

Epistemological
Students are unfamiliar to how knowledge is constructed in a discipline.

Emotional
Experience-based reactions to content hinders learning.

Procedural

Epistemological

Emotional

Teacher Content

The "curse of expertise" sometimes prevents experts from accurately anticipating the obstacles that impair the learning of novices (Hinds, 1999), causing a bottleneck of learning between course content and student. How can we better understand these bottlenecks?

Identify Bottlenecks to Student Learning to Develop Improved Learning Strategies

Faculty are experts in their disciplines. The cognitive skills that comprise expertise can also create barriers to instruction. Experts internalize disciplinary cognitive skills and procedures through extensive practice and repetition to the point where they can execute these skills without deliberate thought. The automation of these skills (developing skilled disciplinary habits of thought) enables experts to devote their attention to areas that are difficult. However, this automation can also make it more difficult for experts to clearly articulate and explain how they carry out skilled behaviors. A solution that appears to simply "pop into the head" of an expert may actually be based on a complex series of cognitive steps that play out rapidly in the mind of an expert. When explaining the solution to a novice, the expert might omit one or more intermediary steps.

From a student's perspective, experts solve problems through processes that seem mysterious and hidden. Students might not know all the intermediate steps hidden below the surface of the fluid performance of an expert. The "curse of expertise" sometimes prevents experts from accurately anticipating the obstacles that impair the learning of novices (Hinds, 1999). The detailed steps experts follow when they solve a problem become less obvious after years of practice enable experts to execute these steps automatically. Experts tend to represent and describe their knowledge in abstract language that interferes with clear communication with novices (Hinds, Patterson, & Pfeffer, 2001; Nickerson, 1999). The challenge facing experts who teach is to articulate their implicit knowledge so that it is explicit and accessible to students.

Researchers at Indiana University have been exploring ways to make implicit expert knowledge explicit through a process called Decoding the Disciplines. They identify three types of bottlenecks or obstacles to learning:

- **Procedural bottlenecks** occur when successful completion of a task requires multiple steps. Students may not have identified and/or mastered all of the steps required to complete the task (e.g., the steps involved in formulating a hypothesis, identifying competing hypotheses, and determining which variables must be manipulated, which variables must be controlled, and which variables must be measures to design an experiment).
- **Epistemological bottlenecks** occur when students do not understand how knowledge is constructed within a discipline (e.g., the nature of what "counts" as evidence to support an argument).
- **Emotional bottlenecks** occur when students have emotional responses to the discipline or subject matter that hinders learning (e.g., when students feel that their religious beliefs are threatened if they study or accept the concept of evolution in biology).

The Decoding the Disciplines process helps expert faculty identify conceptual bottlenecks and discover strategies to help make implicit expert strategies explicit and devise learning activities that will help students develop these skills. The process involves the following steps:

1. Identify a bottleneck concept
2. Define the processes students must learn to overcome the bottleneck
3. Identify ways to model these processes
4. Create activities and assignments that give students practice with these processes and feedback on their performance

5. Identify strategies to maintain student motivation while learning these processes
6. Assess student progress in acquiring these processes
7. Share effective strategies with others in our discipline

Interested faculty can learn more about Decoding the Disciplines and read about specific disciplinary examples by visiting the Decoding the Disciplines website: http://decodingthedisciplines.org/index.html

Resources:

Diaz, A., Middendorf, J., Pace, D., & Shopkow, L. (2008). The History Learning Project: A department "decodes" its students. *The Journal of American History, 94,* 1211-1224. doi: 10.2307/25095328

Hinds, P. J. (1999). The curse of expertise: The effects of expertise and debiasing methods on predictions of novice performance. *Journal of Experimental Psychology: Applied, 5,* 205-221. doi: 10.1037/1076-898X.5.2.205

Hinds, P. J., Patterson, M., & Pfeffer, J. (2001). Bothered by abstraction: The effect of expertise on knowledge transfer and subsequent novice performance. *Journal of Applies Psychology, 86,* 1232-1243. doi: 10.1037/0021-9010.86.6.1232

Middendorf, J., & Pace, D. (2004). Decoding the disciplines: A model for helping students learn disciplinary ways of thinking. *New Directions for Teaching and Learning, 2004,* 1-12. doi: 10.1002/tl.142

Nickerson, R.S. (1999). How we know – and sometimes misjudge – what others know: Imputing one's own knowledge to others. *Psychological Bulletin, 125,* 737-759. doi: 10.1037/0033-2909.125.6.737

Submitted by:

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Characteristics of Effective Feedback

Feedback is essential to learning, often an element of class interaction that students rate favorably. But how to we achieve a balance of productive criticism? Under what conditions does feedback work best? Consider these elements now only in how you provide feedback for your students, but also how students conduct peer review.
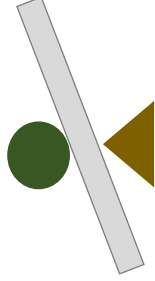
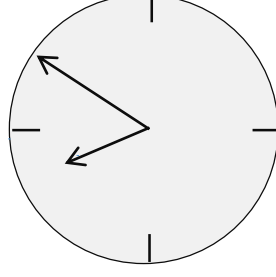## Task Specific

☑ Rubric
☑ Project
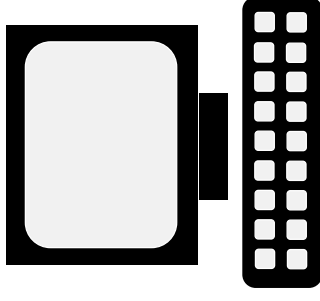☐ Extra Considerations

Self-Regulated
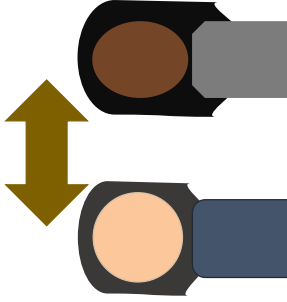
Manageable

Time Sensitive

Technology Enhanced

CETL adapted this material from Jodie Hemerda's contribution to the 2014-2015 Teaching Issues Writing Consortium's Teaching Tips.

Characteristics of Effective Feedback

 "To be effective, feedback needs to be clear, purposeful, meaningful, and compatible with students' prior knowledge and to provide logical connections" (Hattie & Timperley, 2007, p. 104).

Task specific – feedback requires learning context and therefore needs to be task specific. There is no advantage to tangential conversations when providing feedback.

Self-regulation – feedback should encourage the learner's self-regulation by enhancing self-efficacy and self-esteem. This concept corresponds with teaching learners how to learn.

Low task complexity – feedback should address tasks of low complexity. Goals should be broken down into manageable tasks, as this increases the effectiveness of feedback.

Timing – the timing of feedback is not as straight forward as some may think. Quick turnaround on the correctness of simple tasks benefits students. While students may prefer instantaneous feedback, the literature supports that task process feedback benefits from a delay where students have time to think about difficult tasks before receiving the feedback.

Praise – the most prevalent and least effective, praise disrupts the positive effects of feedback. It should be used cautiously, as students tend to enjoy private praise though it fails the need for task specificity.

Technology enhanced – used appropriately, technology has the ability to provide timely feedback, improve collaboration, increase social presence, increase dialogue, improve reflection, support learning principles, and increase student satisfaction. Consider using the technologies available at your school to optimize technology in providing students feedback.

Resources:

Hattie, J. & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), pp. 81-112. doi: 10.3102/003465430298487 Retrieved from http://rer.sagepub.com/content/77/1/81.full.pdf+html

http://wikieducator.org/images/9/92/KAMII_Hemerda.pdf

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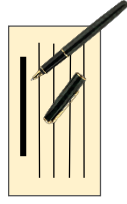
Modeling Scholarship

As scholarly teachers, faculty can serve as scholarship role models for their students. In relevant classes, we can teach the research process by showing our students whatever we are working on that semester, be it a presentation, an article, or a book.
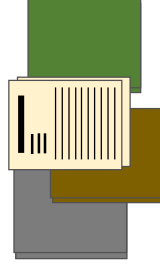
The Germ

The Thesis

The Literature Review

The First Draft
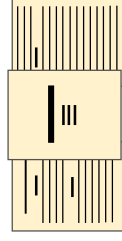
The Revision
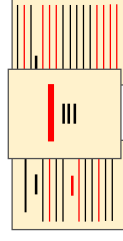
Modeling Scholarship

When Charlie was in grad school, a famous professor burst into class the first day, announced he was so busy with his research he had no time to teach, and informed the class they would have to teach themselves Old English. My-oh-my, how times have changed. The three of us have just organized a Scholarship Week for our university that has included presentations about faculty-student mentoring and even posters demonstrating that worthy collaboration.

At a bare minimum, we would like to recommend that **faculty serve as scholarship role models for their students**. In relevant classes, we teach the research process by showing our students whatever we are working on that semester, be it a presentation, an article, or a book. For instance, in our lit classes, we provide an example throughout the whole research continuum:

- **The Germ**: many times the genesis of a piece of scholarship comes from something that arises in class — a student question, a mini-lecture piece that demands more exploration, a key research conundrum (e.g., why did Hemingway's Margot Macomber shoot her husband?).
- **The Research**: most scholarly pieces start large and narrow down. Our primary rule is that if the idea seems too small to write about, it's perfect (e.g., the role of the lion's mind in "Macomber").
- **The Thesis**: narrow down your slant to a specific declarative statement (e.g., Margot Macomber was manipulated into shooting her husband by Wilson, their hunting guide).
- **Lit/Scholarship Review**: find every article relating to the narrow thesis, especially those that disagree; if a research gap exists because no one has touched the topic, state that fact.
- **First Draft**: get something down on paper.
- **Revised Draft**: as they say in Hollywood, nothing is written — everything is rewritten.
- **Submission for Publication**: take your laptop into class and have your students watch as you submit.

Even if you disregard the positive influence on students of seeing the scholarly process broken down into workable, effective steps, one obvious side benefit of the modeling approach is that you create more scholarship, and, as a teacher-scholar, that gives you a "two-fer" for your troubles.
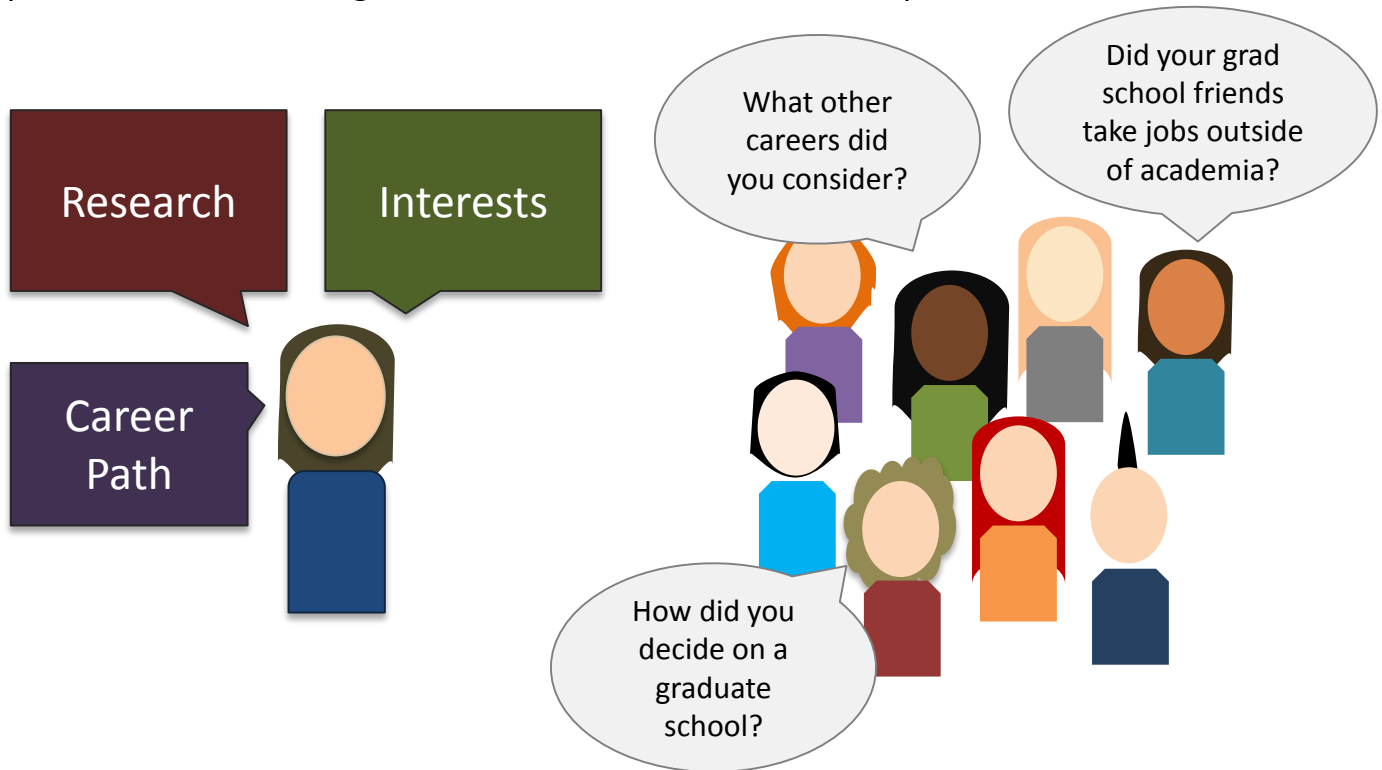
Submitted by:
Charlie Sweet
Hal Blythe
Rusty Carpenter
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Connections Class:
Improving Student-Faculty Interaction

Connections Classes are designed to enhance faculty-student interaction. Faculty spend 15-20 minutes during one class period sharing information about themselves, their research, their career path, their interests, how they decided to become a professor, and/or any other information they feel comfortable sharing with the class. Students can ask questions and the dialogue is intended to be informal and open.

Research

Interests

Career Path

What other careers did you consider?

Did your grad school friends take jobs outside of academia?

How did you decide on a graduate school?

CETL adapted this material from Laila Guessous' contribution to the 2013 Instructional Fair at Oakland University.*

Connections Class: Improving Student-Faculty Interaction

Connections Classes are designed to enhance faculty-student interaction in 1st and 2nd year engineering/STEM courses. Faculty spend 15-20 minutes during one class period sharing information about themselves, their research, their career path, their interests, how they decided to become a professor, and/or any other information they feel comfortable sharing with the class. Students can ask questions and the dialogue is intended to be informal and open.

Step-by-Step Instructions of Strategy:
1. Select one class period, preferably in the first third of the semester
2. Reserve the last 15-20 minutes for a Connections class
3. Announce to the class that you are going to stop the class lecture early in order to focus on something different then proceed to share information about yourself, your research, your interests, how you decided to become professor, etc.

You can get the discussion started by prompting students to ask you any questions about yourself, you career, or any topic that you are comfortable discussing with them.

If possible, bring a snack such as cookies to class (not necessary). This will create a more social, engaging and fun atmosphere and will make students feel even more comfortable. The goal of a Connections class is to humanize the faculty member and improve faculty-student interactions.

Additional Comments:

Three faculty members have implemented this initiative in their EGR courses in Winter 2013. Student survey results show that **92.7%** of the student respondents agree or strongly agree that there is value in having a 'Connection Class' in their engineering classes. Student comments were overwhelmingly positive and indicated that students felt more comfortable approaching the faculty member after the class. Results at other institutions point to similar results.

This strategy is being tested in SECS through a mini-grant from the NSF-funded ENGAGE program (http://engageengineering.org).

Name of Course that strategy is being implemented into: Introduction to Thermal Engineering (EGR 250). It was also implemented in EGR 240 and EGR 141

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Engaging in Class Discussion

Using Word Clouds for Sensitive Topic Discussion

While controversial or private topics may be important to course content and to student learning, students are often hesitant about how to properly discuss such topics, concerned that they might say the wrong thing in the wrong way. Using anonymous discussion methods facilitate this discussion, and word clouds such as Wordle can help see trends in student thinking and vocabulary on the topic.

"Wordle" above made from the teaching tip text.

Using Word Clouds to Discuss Sensitive Topics in Class

I have found an interesting way to approach potentially touchy topics in my psychology classes is with word clouds. Word clouds are visual representations that reflect the frequency with which words occur in a passage or document — the larger the word appears in the word cloud, the more frequently it occurred in the text. There are a number of free websites where word clouds can be created. One of my favorites is [Wordle](www.wordle.net) (www.wordle.net).

I use word clouds in class by first starting out with a controversial question. For example, I ask students to think about gender stereotypes and in particular the stereotypes for men. As they are thinking, I pass out index cards. Students are then given one minute to write down as many male gender stereotypes as they can. Students are also told that their responses are anonymous and that they should not write their names on their cards.

After the minute is up, I collect the cards and then ask the class to hypothesize about what the most common stereotypes were. I then shuffle the cards and redistribute them. I ask each student to read aloud the stereotypes listed on his/her card. I also tell students not to be embarrassed because they are not reading their own cards; they are just reporting the responses of an anonymous classmate. As students read the cards, I type what is said verbatim into a word cloud website. We then take a look together at the word cloud that is created and discuss what it might mean.

Although I have used this activity primarily to discuss stereotyping, it could also be used to discuss other sensitive issues and get a conversation started in class.

Submitted by:
Fred Sanborn, Ph.D.
Associate Professor of Psychology
Director, Teaching & Learning Center
North Carolina Wesleyan College

The PEAR Approach
Developing Stronger Discussion Questions

When developing questions for students, we tend to ask the questions that we think will provoke the answer we want and hope that students will dig deeper. The PEAR approach develops discussion questions that encourage critical thinking and more in-depth answers.

have a **personal** connection

P

relate to **experience** (feelings)

E

take an **action** to **participate**

A

R

think and **reflect** on its impact

Using the PEAR Approach to Develop Stronger Discussion Questions

Many faculty have either sent students home with discussion questions to prepare for a future class period or posted discussion questions online only to receive answers that miss the mark or don't elicit quite the response that was desired. Thanks to Jim Berger at WKU, I have learned a better way to write discussion questions that not only uses a "pilot tested" process for development but that also leads to stronger, more reflective questions that help my students to connect with course content.

When developing questions for students, most of us tend to simply write the questions that we think will gain us the answer we want and hope that students will dig deeper. The problem is that many students won't do anything more than a question asks them to do: asking them to "list" gets us bullet points, or asking them to "describe" may only gain a sentence when we wanted a paragraph. The PEAR approach to develop better discussion questions encourages critical thinking skills and more in-depth answers. What is the PEAR approach?

Personal – having a personal connection

Experiential – related to their experience (feelings)

Active – they must do something

Reflective – and think about how it impacted them

The PEAR approach responds to Kolb's experiential learning style theory and helps students to better process and retain information via a four stage learning cycle (McLeod, 2013). PEAR questions ask students to analyze the concepts in the readings and make connections between theory or practice and their personal lives and can have students experiment with the ideas in the readings, share what they would have done differently as a result of their reflections in light of their new knowledge, or argue the opposite of a classmate's position.

Throughout this course, we have practiced varying skills that lead to the creation of a successful research project. First, list three types of writing we have covered this term, and then argue how each one will or will not be beneficial to you in your future career and everyday life.

Good PEAR questions utilize action verbs that can be mapped to a skill level on Bloom's taxonomy (see Resources for a good listing of such verbs), too, and are developed using a careful and deliberate process:

1. *Identify what needs to be learned.*
2. *Develop a question that assesses that knowledge using the PEAR approach.*
3. *Administer the question to small group of students or colleagues.* This step is often skipped, but this "peer review" or "piloting" often yields good feedback that can be used to more precisely shape the question. If your department has graduate students or student workers, they can be your best hope for this "test run," as they are more likely to answer as your students will, unlike your colleagues.
4. *Analyze the results and make modifications*. Note here that if #3 does not gain you the answers or types of answers you wanted to your question from most of your test subjects, this is a sign that you're not asking what you think you might be asking. You may even want to repeat 3 and 4 a couple of times before moving to 5.

5. *Give question to students*. Don't be shy about asking students how they would have refined the question once they've answered it. This gives you a chance to hear how they think and gives them a chance to feel greater investment in the course (which leads to better course evaluations!).
6. *Analyze the results to determine if material was learned.*
7. *Make modifications for next time.*
8. *Repeat as needed to refine the question.*

In a face-to-face course, you can send your students home with PEAR questions to write out their answers and bring to class. These can be used as jump starters for a traditional discussion or as part of a "silent discussion" where students are paired or put in small groups to exchange papers and respond to one another's (and subsequent) answers before coming back together as a class for a fuller discussion. In an online course, PEAR questions should yield richer, more meaningful discussions on the discussion boards, in blogs, or however you choose to use them.

Resources:

249 Bloom's taxonomy verbs for critical thinking. (2013). Retrieved from http://www.teachthought.com/learning/249-blooms-taxonomy-verbs-for-critical-thinking

McLeod, S. (2013). Kolb – learning styles. Retrieved from http://www.simplypsychology.org/learning-kolb.html
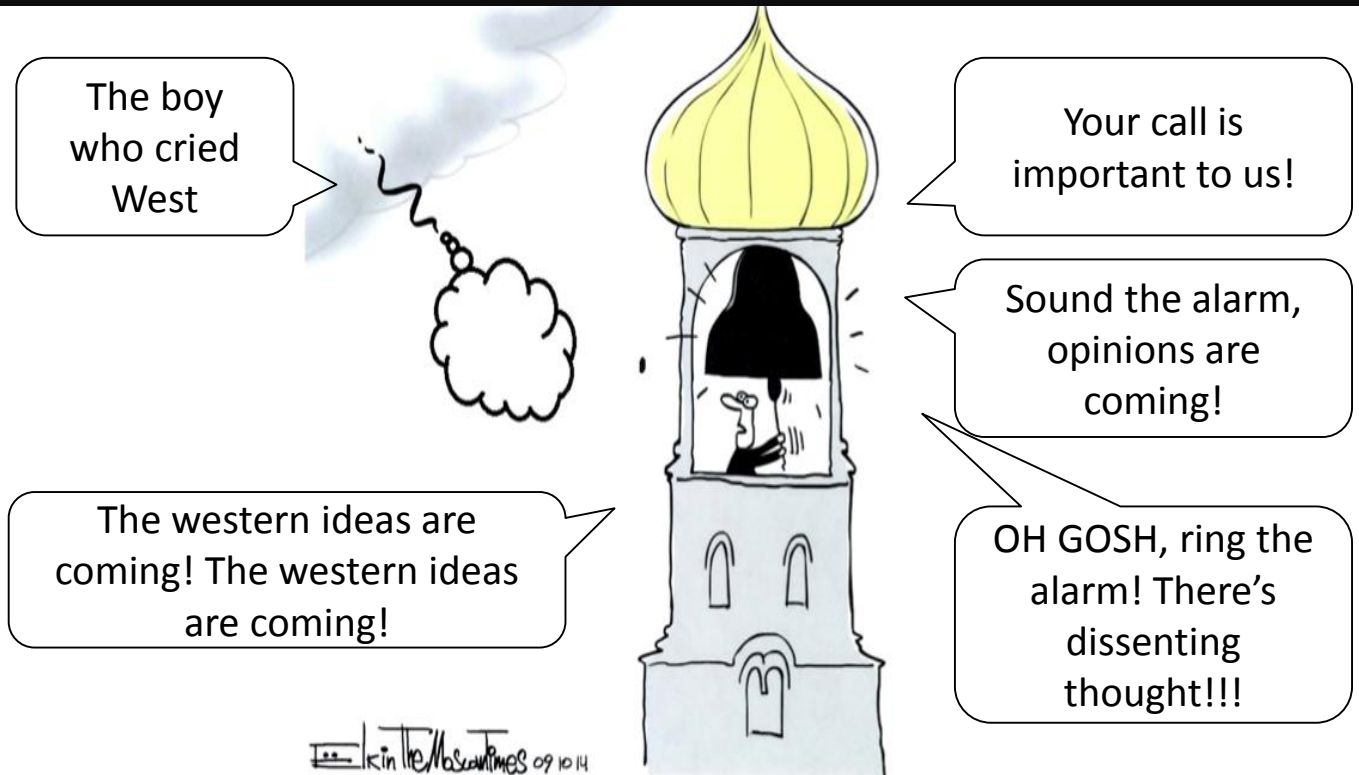
Submitted by:
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Distance Learning and English,
Western Kentucky University
www.wku.edu/dl

Comics and Content

How does course content apply to other texts and messages? In this Comics and Content activity, students post a caption for a collection of peer captions. Once they post their caption, they can see everyone else's take on the comic.

The boy who cried West

Your call is important to us!

Sound the alarm, opinions are coming!

The western ideas are coming! The western ideas are coming!

OH GOSH, ring the alarm! There's dissenting thought!!!

Captions from an International Studies class focusing on Russia.

Brief Overview of Strategy

Select comics related to topic under discussion in class and remove the caption. Students create their own caption. Instructors can use Moodle and create a Q & A Forum to post the cartoons. Once students finish the class can review all of the captions and judge for relevance, select the most appropriate response, etc. This is a fun activity.

Type of Strategy: In-class active learning
Purpose: To interpret the intent of the cartoonist/satirist by creating a meaningful caption.
Type of Course: Undergraduate/Honors College/Online
Name of Course: HC 205 Defining the New Russia and PS 337 Post Soviet Politics
Typical Number of Students in Course: 20-25 though immaterial
Ease in which strategy could be modified and/or applied to other courses: Easy

Greg Allar, PhD
allar@oakland.edu
International Studies
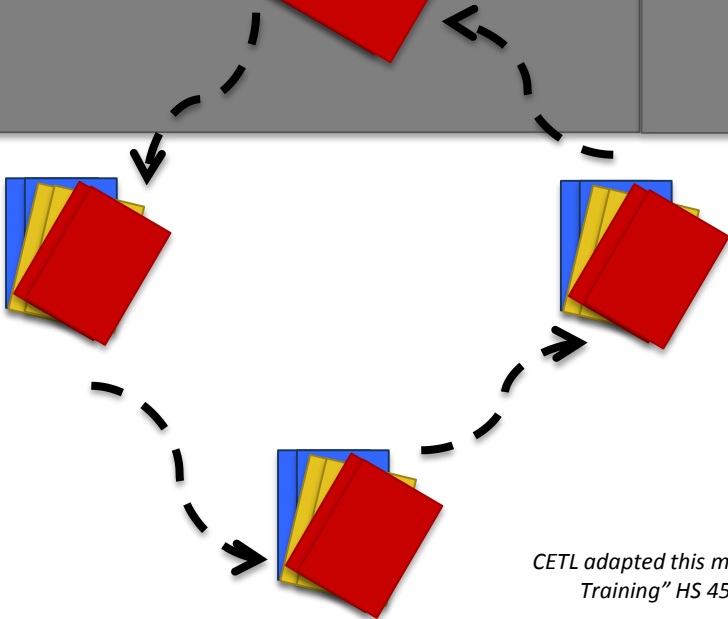Oakland University
Rochester, MI

Brain Muscle Circuit Training

We teach skills our students can use to solve problems. Show students how classmates with the same knowledge approach problems differently in this circuit activity.

The **blue folder** offers a group a blank problem sheet, which they will discuss and answer on the sheet.
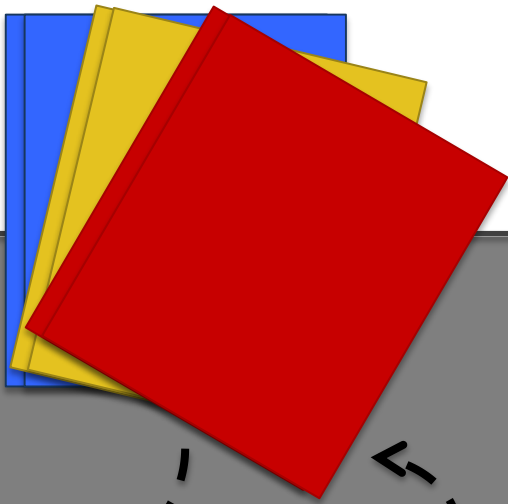
Once finished, they compare their answer with the previous group, whose answer is in the **yellow folder**. The group puts this written comparison in the **red folder**, returns all answers to the yellow folder, and moves to the next station to repeat the process.

CETL adapted this material from Dr. Rebecca Cheezum's "Moral Muscle Circuit Training" HS 450 activity at Oakland University's 2013 Instructional Fair.*

Moral Muscle Circuit Training

This class activity was inspired by a boot camp fitness class where there were different circuit stations, in each of which a different muscle group was exercised. For this class activity, I had five different "circuit stations" located around the room. Each station was a different ethical dilemma to be discussed. Over the class period, students rotate through all the circuits, answering the questions and seeing how other groups answered the questions.

Step-by-step Instructions of Strategy:

1. Prepare and set up each station in advance. Each station will include a blue, yellow, and red folder. The blue and yellow folders each contained at least five blank copies of the problem worksheets for that station. (It is helpful to have extra blank copies in the blue folder so all group members can read the question.) The problem worksheets included an ethical dilemma and a series of questions related to the material for that class. The red folder was empty.
2. Students counted off by five and went to the circuit station corresponding to their number.
3. Round 1: Students were instructed to open their blue folders and work through the worksheet as a group. They had about 10 minutes to complete this task. When they had completed the worksheet, they were asked to put it in the yellow folder.
4. Round 2-4: Students then moved clockwise to the next station. They repeated the activity, by taking a worksheet out of the blue folder and working on that worksheet as a group. After 10 minutes, the groups removed form the yellow folder, they described any differences and similarities between the two groups and then put the sheet describing your similarities and differences in the RED folder. They then put their group's and the preceding groups' answers back in the yellow folder. After each round (about 10-15 minutes), the group moved on to the next circuit.
5. For the fifth and final round, the groups repeated the activity. After reviewing all completed sheets in the yellow folder AND the red folder they prepared to report out to the entire class what you saw in the worksheets, including what answers were given and what disagreements were there between the groups.
6. Each group reports out the differences observed between groups' answers. The instructor/facilitator may relate these differences to different concepts covered in class.

This activity gave groups a chance to come to their own conclusions, without influence from other groups. This led to different groups having very different discussions about the topic. This activity also enabled groups to see the different conclusions to which other groups had come.
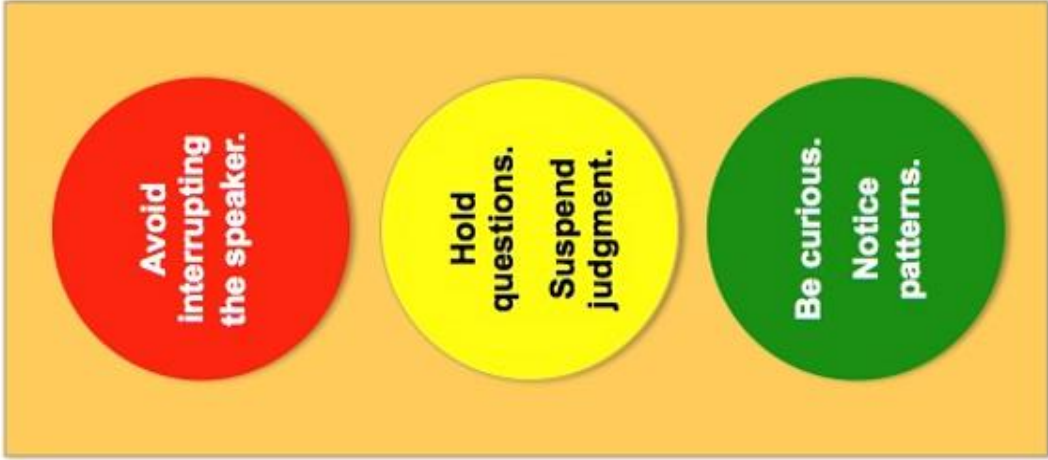
Students do not always like moving around the room, but movement did keep them engaged.

Rebecca Cheezum
cheezum@oakland.edu
Implemented into HS 450: Laws, Values, and Healthcare

Active Listening in Small Groups

As our students' lives require less attentive listening with cellphone notifications and instant updates, how can we encourage this skill with our classes? We listen with our ears and our eyes, and recognize that deep listening requires both **attention** and **intention**.

As students hold small-group discussions, remind them to

Listen with openness by suspending judgments.
Listen with **curiosity**, a desire to learn rather than "fix."
Listen without asking questions that interrupt others.
Listen for **patterns** and for what is not being said.

Listen with **intention**: what do you intend to learn?

Avoid interrupting the speaker.

Hold questions. Suspend judgment.

Be curious. Notice patterns.

Active Listening: Small Group Activity

"I like to listen. I have learned a great deal from listening carefully.
Most people never listen." --Ernest Hemingway

Every semester I face a group of students who arrive to class eager with good intentions to learn. Believers in their abilities to multi-task, they keep their earbuds in and their cell phones handy. They are convinced they can listen to the class discussion or lecture while simultaneously texting, tweeting, surfing the internet, and checking facebook updates, all with their choice of background music.

But listening well – actively and deeply – is a challenge. In fact, one of the results of our noisy world, says <u>Julian Treasure</u> in a recent TED Talk, is that we are "losing our listening." Listening is a skill, which requires both *attention* and *intention*, and most of us would agree that many students could use some reinforcement.

Deep listening is a radical act: it starts with our ears—making sense of words as well as of the speaker's tone—and it also involves our eyes, because body language can say a lot. Importantly, though, deep listening requires that we push the MUTE button on our internal commentary. And this last step is probably one of the hardest, because rather than truly *listen* to what another says, we too often merely *hear* a word or an idea that connects with something *we* want to say. The old proverb that states, "We have two ears and one mouth so we can listen twice as much as we speak," would be more accurate if it explained that the reason for two ears and one mouth is that it's twice as hard to listen as it is to talk.

I do the following activity with students several times throughout the semester when I want them to explore specific topics. Before putting them into small groups of 4 or 5, I review the following guidelines:

- Listen with **openness**: suspend your judgments and biases and listen for those things with which you agree as well as those you might challenge;
- Listen with **curiosity**: engage your desire to learn, rather than to try to "fix" anything;
- Listen **without asking questions** that interrupt the speaker: jot down your questions and save them for later;
- Listen for **patterns** and for what is *not* **being said;** and, finally,
- Listen with **intention**: what do you intend to learn or do with the information you'll learn?

There are only **two rules**:

1. Each person must speak once before anyone can speak a second (or third) time.
2. If someone asks a question, someone else must answer it before another comment can be made.

Step One: Identify a group leader who will make sure the rules are followed.

Step Two: One person begins by saying something about the topic; the others listen attentively and intentionally.

Step Three: Another individual asks a follow up question or comments about what s/he heard.

Repeat Steps Two and Three until everyone has spoken at least twice, or for a specific amount of time.

Step Four: The group leader, with help from the group, summarizes the conversation and identifies any patterns or insights that emerged and developed.

I follow this activity with a reflective journal entry, asking students what surprised them (often it is the difficulty of listening actively) and what new or interesting points/ideas they learned. Nadine Dolby astutely observes in The Chronicle that "There's No Learning When Nobody's Listening," which is why teaching students to listen will help them to succeed in class and also lead them to a deeper engagement with their world.

Additional Resources:
Artze-Vega, Isis. "Active Listening: Seven Ways to Help Students Listen, Not Just Hear." Faculty Focus: Higher Ed Teaching Strategies from Magna Publications. 10/1/2012. http://www.facultyfocus.com/articles/teaching-and-learning/active-listening-seven-ways-to-improve-students-listening-skills/

Mankell, Henning. "The Art of Listening." The New York Times. Opinion. 12/10/2011. http://www.nytimes.com/2011/12/11/opinion/sunday/in-africa-the-art-of-listening.html?_r=0

Submitted by:
Lisa Dresdner, Ph.D.
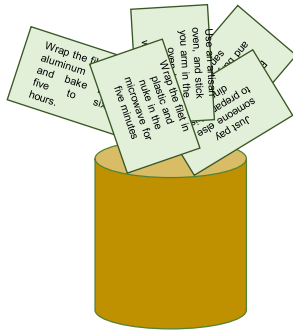Norwalk Community College
www.ncc.commnet.edu

Cash Cab Activity

An adaptation of the traveling TV trivia show, this interactive review game allows students to consider questions individually and call on classmates to help when necessary, promoting homework completion and student engagement.
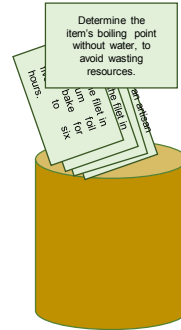
ASK

a question,
which students
answer on
a notecard.

COLLECT

all of
the notecards,
all checked
after class.

SELECT

one notecard,
and put it on
display for
the class.

SHOUTOUT

to another
student if the
answer could
use help.

CETL adapted this material from Fred W. Sanborn's contribution to the 2013-2014 Teaching Issues Writing Consortium's Teaching Tips.

Cash Cab Activity

Below is the tip that I would like to share. It is offered by Dr. Carol Lawrence, Professor of Mathematics at North Carolina Wesleyan College. Additionally, our Teaching and Learning Center web address.

"Cash Cab Activity"

As a professor I look for simple but effective ways to motivate student learning and assess student understanding. During the previous academic year, I developed and incorporated a new activity I call Cash Cab (based on the TV series) to promote student engagement in class and encourage homework completion outside the classroom. When playing Cash Cab, the students were given a question to answer or a problem to solve on a note card. If my objective was to have students access and review prior knowledge needed for the current lesson's concept being developed, I would give the question/problem at the beginning of class. If the objective was to assess the learning of the current concept, the students completed the problem at the end of class. Amount of time given to complete the question/problem was based on how long I thought the students needed for that particular question/problem. When all note cards were collected. I randomly selected one card in which the student was asked to answer the question or put the problem on the board for 2 extra credit homework points, provided the answer was correct. If the student was not comfortable with his/her answer on the card he/she could do a "call out" to another student for help. If, with the "call out" student's assistance, the answer was correct each of these two students received 1 point extra credit. All the other cards were checked and received 1 point for each correct answer, 0 points for an incorrect answer. I gave no partial credit since these were responses for extra credit. My mathematics students, particularly the Intermediate Algebra (developmental mathematics) students, were very competitive and requested more problems so I will definitely use it again.

Ask a question.

Collect the answers from each student.

Pick one randomly, display the answer.

If the student could use help on the question, use a "shoutout."

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Making Lectures Interactive

Students value a class in which faculty share their expertise ... to an extent. As you plan a lecture, offer checkpoints where students can apply what they have learned.

CLASS BEGINS

SKELETON NOTES
Create a handout with the lecture's key points in the left margin, leaving space for students to fill in notes.

PRE-LECTURE

CLUSTERS

Break reading into sections.

Each group teaches the class.

Assign one section per group.

MINI-LECTURE

SUPPORT A CLAIM
Provide statement for which students must locate support in lecture notes and give data to support the statement.

For more on these and six other interactive lecture activities, such as the one-minute paper, visit **oakland.edu/teachingtips**.

POST-LECTURE

PRESS CONFERENCE
Groups write questions and interview the instructor.

CLASS ENDS

CETL adapted this material from Belinda Richardson and Debi Griffin's contribution to the 2013-2014 Teaching Issues Writing Consortium's Teaching Tips.

Activities to Make Lectures Interactive

In order to retain student attention and facilitate learning, consider integrating a variety of activities into a lecture-based course. Start by finding natural breaks in the content material and break up the lecture into shorter segments. In between the shorter lectures, add activities that require the students to review and apply their new learning and interact with each other. Mix it up by incorporating different activities each week. The change of pace, interaction, and variety can help to enliven the classroom atmosphere and encourage deeper learning for every student. Some activities to consider are listed below.

- <u>Skeleton notes</u> – Create a handout with key points of the lecture on the left margin, leaving space for students to fill in notes during lecture. Pair up or group students to compare notes and fill in gaps.
- <u>Press Conference</u> – Ask students to work in teams to write and organize questions, and then interview the instructor in a simulated press conference.
- <u>Clusters</u> – Break reading material into sections and have each individual or group read an assigned section, becoming an "expert" on that section. Each individual or group then teaches the others about the specific material that they learned.
- <u>Select the Best Response</u> – Students are presented with a question or scenario and then asked to consider which one of three responses best answers it. This can be used to recall and apply information presented in lecture.
- <u>Correct the Error</u> – This can be used in math or lab courses. The instructor creates an intentional error based on important lecture material. Students then work to correct the error.
- <u>Support a Statement</u> – The Instructor provides a statement for which students must locate support in lecture notes or textbooks and give data to support the statement.
- <u>Re-order Steps</u> – The instructor presents a series of steps in a mixed order and the students are asked to sequence the items correctly.
- <u>Short Video Clip</u> – A short, relevant video clip can be useful for introducing a new topic, punctuating the main point, or providing a springboard for class discussion.
- <u>One Minute Paper</u> – Near the end of the class period, ask students to write for one minute on the main 1-2 points of the class. This assignment allows you to gauge student comprehension and gives students an incentive to absorb and comprehend course material.
- <u>Student-created Visuals</u> - Ask students to work in small groups to create visual study aids such as flow charts, graphs, diagrams, artwork, maps, or photography. A variation on this activity could produce student-created study guides prior to each major exam.

Submitted by:
Belinda Richardson and Debi Griffin
Bellarmine University
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"Hands Down" Approach to Class Participation

"Hands Down" is a questioning technique that keeps your students alert and ready to respond. So what's the change? Students do not raise their hands to be called on. Instead you randomly select students once you have posed your question and paused so each student can develop an answer.
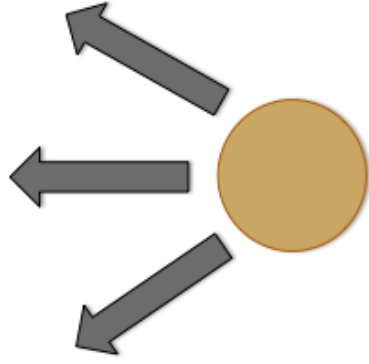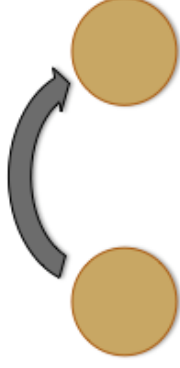
POSE

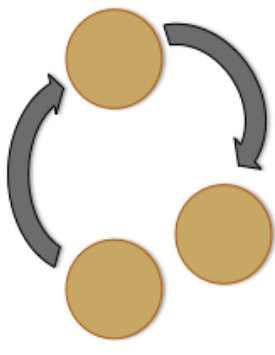Pose your question, one that is worth their reflection.

PAUSE

Allow time to develop an answer. Do not be afraid of the silence.

BOUNCE

Call on a student at random to share their response.

POUNCE

Call on another student to respond to the first answer.

Hands Down: Pose, Pause, Bounce, and Pounce

Hands down is a questioning technique that keeps your students alert and ready to respond. So what's the change? Students do not raise their hands to be called on. Instead you randomly select students once you have posed your question and paused (i.e., wait time or think time) so each student can develop an answer.

Before each class session where you will use this technique, prepare your questions ahead of time.

Prior to using this technique, you will want to say something to your class about using a new discussion/questioning technique...it will initially be challenging for students to break the habit of raising their hands.

Step one:	Pose your question – one that is worth their reflection.
Step two:	Pause – do not be afraid of the silence...count to 5 and perhaps to 10...
Step three:	Bounce – call on a student at random (see below for two techniques). This first student (student A) will respond...you may need to wait...refrain from jumping in...you may need to insist he/she responds.
Step four:	Pounce – after student A's answer quickly call on another student randomly (student B) and ask him/her their opinion of student A's response – even if student A's response was incorrect.

You can keep going with the Pounce until you feel the responses have led to an understanding of the concept. Then it is back to step one and your next question.

Random selection
Technique one – For those who have access to an interactive white board, there are random word generation tools. Once you place your students' names in and saved the notebook you can use it all term.
Technique two – You need two decks of playing cards. Select the number of playing cards for each student in your class. Create a stack of cards that match the set for your class from the other deck of cards. Give each student a playing card. Shuffle your stack. Pick the first card. The student with the corresponding card responds. You can either place the card selected at the bottom of your deck or reshuffle for the next new questions.

Resources:
McGill, R. M. (2011). How to move your lessons from good to outstanding. Retrieved from http://www.guardian.co.uk/teacher-network/2011/nov/17/lessons-good-to-outstanding-afl-questioning?INTCMP=SRCH Based on an Assessment for Learning (AfL) technique (http://www.assessmentforlearning.edu.au/default.asp)

Submitted by:
Rebecca Clemente, director, Center for Teaching and Learning
North Central College, northcentralcollege.edu

A Carousel Activity
For Student-driven Group Discussion

The Carousel Activity is a group discussion strategy that achieves a breadth and depth that can otherwise be missed in whole-class discussion. Student groups discuss the assigned material, and prepare to present it to their classmates. Then, students form new groups, in which each of the previous groups is represented by at least one member. Within these new groups, students share and discuss their findings, and serve as "experts" on the particular topic or example to which they were originally assigned.

Discussion: Round 1
Each group discusses a particular topic, becoming "experts" in that topic.
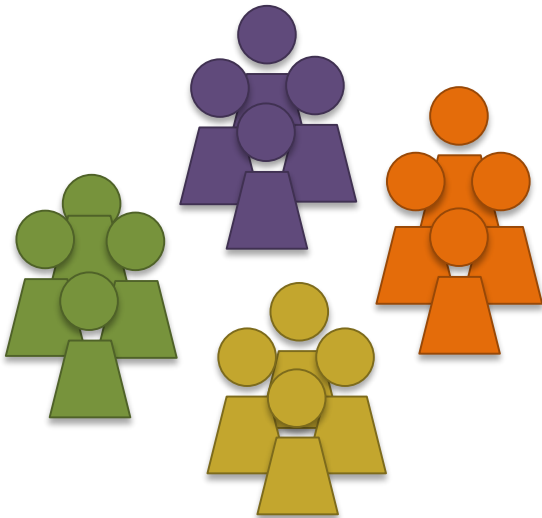
Discussion: Round 2
Experts from each topic meet with one expert on a different topic, and report their findings.

*CETL adapted this teaching tip from Joanne Lipson Freed's contribution to Oakland University's First Annual Instructional Fair in 2013. Dr. Lipson Freed is an Assistant Professor in the Department of English at OU. She learned about this strategy from the summer institute at University of Michigan's Center for Research on Teaching and Learning.**

Carousel Activity

Type of Strategy: In-class strategy for active learning

Purpose, Goals or Learning Outcomes for Strategy:
- Students process and synthesize information independently.
- By presenting their findings to others, students take ownership of the material they have learned.
- Students have a chance to work in-depth with a single topic or example, but then are exposed to several others as well.

Type of Course: I've used versions of this activity for classes at all levels, from undergraduate to graduate, and it could potentially be integrated into a wide range of different teaching formats.

Typical Number of Students in Course: 35

Ease with which strategy could be modified and/or applied to other courses: Easy

Brief Overview of Strategy: Students work in groups, with each group assigned to a different topic or example. First, they discuss the material assigned to their group, and prepare to present it to their classmates. Then, students form new groups, in which each of the previous groups is represented by at least one member. Within these new groups, students share and discuss their findings, and serve as "experts" on the particular topic or example to which they were originally assigned.

Step-by-Step Instructions of Strategy:
1. Decide on the topics that will be covered in the activity, and prepare any supplementary materials that will need to be distributed to students.
2. (*Optional*) Assign students to groups ahead of time, and inform them of the topic their group will be discussing in the following class. Ask them to prepare by reading an assigned text, researching, or preparing notes on that topic.
3. In class, break students into groups. (The size of these groups can vary from as few as 3 to as many as ten students, depending on the size of the class and the number of topics to be covered. In a large class where few topics will be covered, these groups can also be subdivided at this stage.) Give students time to discuss their assigned topic together, and instruct them that each member of the group will need to be prepared to summarize the group's findings when they are done.

4. Form students into new groups; these new groups will contain at least one member who was assigned to each of the original topics. (If attendance is consistent, you can construct these groups in advance. If not, you will have to improvise.) Instruct students to share what they discussed in their previous groups, and answer any questions their classmates might have. By the time this phase of the discussion is complete, each student will have in-depth knowledge of one topic or example, and be familiar with all of them in a general way.

Additional Comments:

I've used this activity to carry out detailed analysis of literary texts, assigning the same set of questions to all the groups, but tasking each to focus on a different character or section of the text. I've also used it to bring in additional examples when a subject was too broad to cover in our assigned readings (for instance, to bring in many different examples of feminist literary criticism). This strategy could also work well to provide an overview of divergent theoretical positions, or to present a range of case-studies to illustrate a larger point.

I especially appreciate the way this activity balances breadth and depth. Also, the fact that each student will be responsible for sharing the findings of their original group (rather than relying on a single group "secretary" or "reporter") encourages accountability, and prevents students from taking a purely passive role.

Resources Thanks to the Center for Research on Learning and Teaching at the University of Michigan, and particularly their Preparing Future Faculty summer institute, in which I first learned about this strategy.

Name of course in which the strategy is being implemented: English 303: Fiction

Faculty/Instructor's Name: Joanie Lipson Freed   **Email:** freed@oakland.edu

Authentic Learning Activities

Use Discrepant Teaching Events to Address Students' Misconceptions

Six Thinking Hats

Skills for Success: From Academic to Professional

Found Metaphors: A Strategy of Applied Creative Thinking
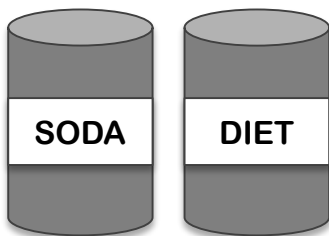
Helping Students Study

Use Discrepant Teaching Events to Address Students' Misconceptions

When learning new material, students often draw on prior knowledge and everyday experiences, which may not be accurate representations of disciplinary knowledge. These inaccurate ideas can mislead students and impede learning. Listen to students' ideas about critical concepts in your discipline and identify their misconceptions. Then design a discrepant teaching event that is student-centered and features hands-on/minds-on activities to confront their naïve conceptions.

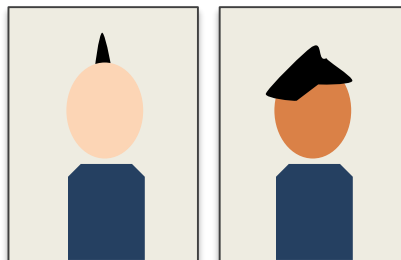## Discrepant Events:
Demonstrations that produce unexpected outcomes
Discrepant events work in any discipline.
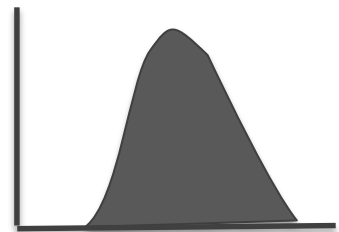
Science
SODA   DIET
Will they float or sink?

Criminal Justice
How will you describe the perpetrator?

Math
Are the grades you calculated fair?

CETL adapted this material from Judith Longfield's contribution to the 2014-2015 Teaching Issues Writing Consortium.

Use Discrepant Teaching Events to Address Students' Misconceptions

When learning new material, students often draw on prior knowledge and everyday experiences, which may not be accurate representations of disciplinary knowledge. These inaccurate ideas can mislead students and impede learning. Moreover, decades of research have demonstrated that students do not easily give up their deeply held beliefs (Guzzetti, 2000; Lipson, 1984; Strike & Posner, 1992), leaving instructors wondering what to do about students' naïve conceptions.

Discrepant events — demonstrations that produce unexpected outcomes — are used in science to capture students' attention and to confront their beliefs about a "phenomenon by producing an outcome which is contrary to what their previous experiences would lead them to believe is true" (Misiti, 2000, p. 34). Science instructors have long known that the use of this teaching strategy is effective at uncovering students' preconceptions and activating their thinking. A discrepant event can be as simple as floating two identical cans of soda, one regular and one diet, and observing that one floats while the other sinks. Discrepant events work because they create puzzling situations which result in cognitive disequilibrium. This creates the need for students to *assimilate* (use existing knowledge to deal with new experiences) and *accommodate* (alter or replace existing concepts) their prior ideas in order to adapt to the unexpected and puzzling results.

You have probably heard of the criminal justice instructor who arranged to have a student from another class come to the podium and "hit" him. The "offender" then runs out of the classroom and the instructor, now recovered, asks students to write down what happened. He then uses the students' information to create a composite description of the offender and the crime for police. Of course, as the students begin to share their descriptions, it becomes apparent that eye-witness accounts are not as accurate as students had assumed them to be, which was the point of the lesson. Like the floating soda cans, this is an example of a discrepant teaching event.

An example from math involves the naïve belief that numbers don't "lie," with many students believing that the mathematical analysis of a set of numbers provides infallible right answers which can be used to make fair and impartial decisions. To address this misconception, an instructor professed confusion regarding grades on the first assignment, explaining that the grade distribution was not typical of past semesters. She asked students to help her decide the "best way to curve grades" and put the range of scores on the board, handing out raw scores to each student. Students then worked in groups to decide whether mean, median, or mode should be used to determine letter grades. They were unaware that the fictitious scores were distributed in such a way that some groups could get better grades using the mean, while other groups could improve their grades using the median or mode. Once students applied the three types of analysis to personal scores, the class used the results to make a "fair and impartial decision," with groups lobbying for the method that gave them the best grade. When the discussion became heated, the instructor explained that they had just experienced the way in which different methods of analysis can result in different outcomes. This discrepant teaching event helped students see the inadequacies of their previous thinking and to understand how numbers can be made to "lie." (Longfield, 2009).

As you can see, discrepant teaching events can be used in any discipline. To be effective, they must be vivid enough to help students become aware of the dysfunctionality of their current thinking. When outcomes are different from what is expected, tacit beliefs become visible and students are motivated to reconcile previous beliefs with what actually happened, resulting in a deeper understanding of the concepts being studied. Once the "need to know" is created, instructors must help students find intelligible, plausible, and believable explanations of the unexpected outcome.

The next time you're in your classroom, observe your students carefully. Listen to their ideas about critical concepts in your discipline and identify their misconceptions. Then design a discrepant teaching event that is student-centered and features hands-on/minds-on activities to confront their naïve conceptions.

Resources:

Guzzetti, B.J. (2000). Learning counter-intuitive science concepts: What have we learned from over a decade of research? *Reading & Writing Quarterly*, 16: 89–98.

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Longfield, J. (2009). Discrepant teaching events: Using an inquiry stance to address students' misconceptions. *International Journal of Teaching and Learning in Higher Education*. 21(2) 266-271. http://www.isetl.org/ijtlhe/pdf/IJTLHE732.pdf

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Strike, A.K. & Posner, G.J. (1992) A revisionist theory of conceptual change. In R.A. Duschl & R.J. Hamilton (Eds.), *Philosophy of Science, Cognitive Science, and Educational Theory and Science* (pp. 147-176). New York: State University of New York Press.

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Six Thinking Hats

Six Thinking Hats is a technique developed by Edward De Bono. This parallel thinking technique provides a structure for students to explore six distinct perspectives of a complex issue or scenario. The group exercise can easily be adapted to many disciplines.

Green Hat
creativity, possibilities

White Hat
data, facts, information

Red Hat
feelings, instinct, intuition

Yellow Hat
values, benefits

Blue Hat
process, control, timing, plan

Black Hat
difficulties, potential problems

Six Thinking Hats

Creative thinking and critical thinking are both important aspects of problem solving. The "Six Hats" exercise described below provides a framework for students to practice both.

Six Thinking Hats is a technique developed by Edward De Bono. This parallel thinking technique provides a structure for students to explore six distinct perspectives of a complex issue or scenario. The group exercise can easily be adapted to many disciplines.

Using "high school drop-out rates" as a sample topic, the "Six Hats" and perspectives are represented as:

- **White Hat:** focuses on data, facts, information known or needed. *(e.g., What is the current high school drop-out rate in our state? How does the rate in our community compare to the national data? What specific programs are currently in place?)*
- **Black Hat:** focuses on difficulties, potential problems, why something may not work. *(e.g., What issues contribute to the drop-out rate? What are obstacles to improvement? What mistakes do we need to avoid?)*
- **Red Hat:** focuses on feelings, hunches, gut instinct, and intuition. *(e.g., Do you have any emotions around this issue? Put yourself in the shoes of a high school student considering dropping out and imagine your fears and concerns.)*
- **Yellow Hat:** focuses on values and benefits: why something may work. *(e.g., What are we doing right?)*
- **Green Hat:** focuses on creativity: possibilities, alternatives, solutions, new ideas. *(e.g., What's a new approach? If we reduced the drop-out rate by 25%, how could that impact our community?)*
- **Blue Hat:** focuses on process control, timing, next steps, action plans. *(e.g., What's the next logical step? Who needs to be included?)*

A quick Google and YouTube search for "Six Thinking Hats" will supply dozens of charts, images, videos, and exercises using this technique. You can also find an excellent slide show by Edward de Bono on the Six Thinking Hats technique.

Resources:

DeBono, Edward (1999) Six Thinking Hats: An Essential Approach to Business Management, Boston, MA: Little, Brown and Company.

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Skills for Success: From Academic to Professional

Employability skills such as communication, self-management, critical thinking, problem solving and collaboration are necessary for success in academia, but students are often not aware of these and other skills they've used to achieve success in academic tasks. A simple method to address this is to add a *Skills for Success* checklist to assessment tasks.

It does not take the place of grading criteria, but offers students guidance about the generic skills that may be embedded in each academic task.

May

					2	3
4	5	6	7	8	9	10
11	12	13	14	15		
18		20	21	22		
25		27	28	29		

Before the Task
☐ Tick skills you think students will use to complete the task on a *Skills* sheet.
☐ Hand out the ticked sheet with the task and marking guide.
☐ Briefly explain that the skills you've ticked will help students succeed in this task.

On Task Due Date
☐ Students tick the skills they believe they used on a clean *Skills* sheet.
☐ Students share what they have identified and how the skills were used. This helps them articulate the skill in the context of a specific task.

Later
☐ Students refer to the task when addressing selection criteria in job applications, or when developing a portfolio of evidence against professional competencies.
☐ The lecturer compares the skills (s)he anticipated would be important with those the students found to be important and uses the feedback for future tasks.

Skills for Success

Universities have always been institutions that develop and celebrate high levels of academic achievement. Yet society (and students themselves) also ranks universities by the ease with which graduates find fulfilling employment. Interestingly, employability skills such as communication, self-management, critical thinking, problem solving and collaboration are equally necessary for success in academia, but students are often not aware of these and other skills they've used to achieve success in particular academic tasks. As a result they miss out on opportunities to use their academic experiences to effectively substantiate any claims against job selection criteria.

A simple method to address this is to add a *Skills for Success* checklist to assessment tasks. It does not take the place of marking criteria, but offers students guidance about the generic skills that may be embedded in each academic task. The document I have developed fits on one page (front and back), has skills arranged according to graduate attributes, and has checkboxes down the right. The same document can be used for all tasks in all units of the course and serves as an organizer for student portfolios. In accredited courses with professional competencies the list could be adapted to reflect those competencies.

So how does it work?

1. Before the task
- Tick skills you think students will use to complete the task.
- Hand out the ticked sheet with the task and marking guide.
- Briefly explain that, in your experience, the skills you've ticked will help students to achieve well in this task, and discuss why that might be. Ask students to consider the extent to which they already have the skills, or perhaps need to acquire them, and resources or support they could access.

2. On task due date
- Students tick the skills they believe they used on a clean *Skills* sheet.
- Students share what they have identified and how the skills were used. This helps them articulate the skill in the context of a specific task.

3. Later
- The student can refer to the task when addressing selection criteria in job applications, or when developing a portfolio of evidence against professional competencies.
- The lecturer can compare the skills he/she anticipated would be important with those the students found to be important and use the feedback for future tasks and to inform teaching and learning activities.

I have found that using the *Skills for Success* document raises awareness (for lecturers and students) of employability skills or professional competencies that are embedded in specific tasks, identifies links to graduate attributes, offers a basis for organization of students' portfolios, and helps students address job selection criteria. And best of all, it only takes a few minutes for each assessment task!

For a copy of the *Skills for Success* document just email your request to c.moore@ecu.edu.au.

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Found Metaphors
A Strategy of Applied Creative Thinking

"Found" refers to items or concepts stumbled upon rather than
self-constructed. In the case of "found metaphors,"
the "finder" brings new meaning to an object or place
by reframing its context.

A **found metaphor**, then, begins

by discovering an object

like a FALLING APPLE

GRAVITY

(creativity theorists often refer to it as the "vehicle")

that elucidates a subject
(something creativity theorists call the "tenor").
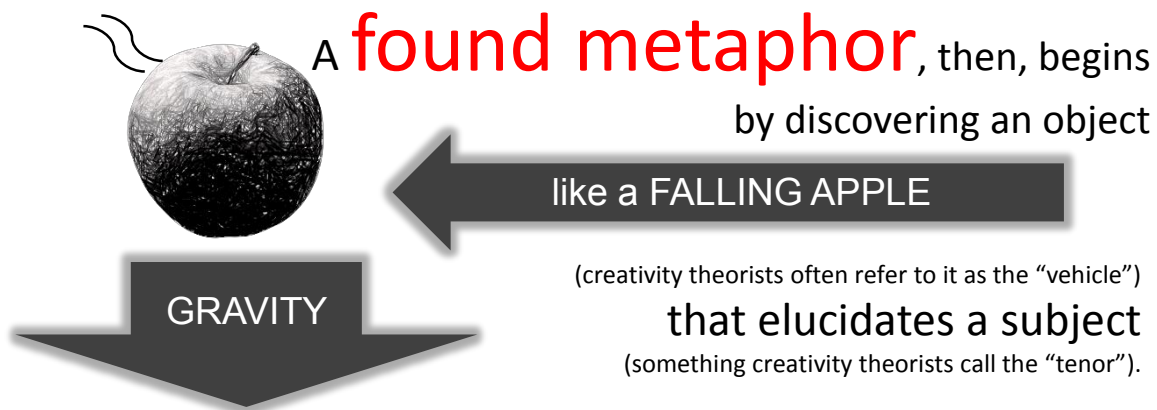
Making connections from school texts to real-world contexts
is an important sign of learning, so engage your students in the creative,
academically sound activity of seeking "found metaphors" by
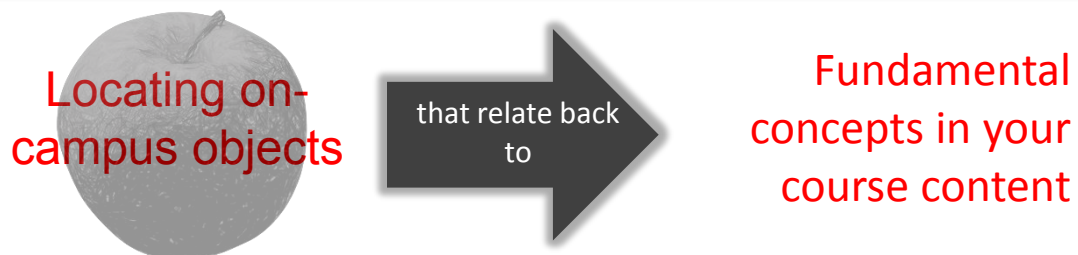
Locating on-campus objects

that relate back to

Fundamental concepts in your course content

Found Metaphors: A Strategy of Applied Creative Thinking

As English professors in general and creative writing instructors in particular, we have used the technique of found poetry to convince students that the printed word abounds with more poetry than most people are cognizant of. We assign students to read typical print sources (e.g., newspapers and magazines) as well as atypical print sources (e.g., advertisements and soup-can labels) in order to locate some examples of poetry (e.g., free verse or metered) or poetic technique (e.g., metaphor, metonymy, and caesura).

Now, in teaching applied creative thinking we've adapted the found poetry assignment into one involving found metaphors. As we say in *Introduction to Applied Creative Thinking* (Stillwater, OK: New Forums Press, 2012), a metaphor "is an effective creative strategy for learning about the unknown and gaining a perspective on it" (67). In *Borrowing Brilliance* (New York: Gotham Books, 2009), David Kord Murray elaborates that "a creative idea begins, either consciously or subconsciously, with a metaphor or analogy. By using a metaphor, you intellectually connect the two things" (110). A found metaphor, then, begins by discovering an object (creativity theorists often refer to it as the "vehicle") that elucidates a subject (something creativity theorists call the "tenor").

We ask students to locate on-campus objects that convey some of the fundamental and powerful concepts of creativity (e.g., perception shifting, collaborating, and piggybacking). To prime the pump we utilize our building. When the Noel Studio for Academic Creativity was constructed in the very center of the University's Crabbe Library, two synchronistic events occurred, or maybe the construction of the Studio sensitized our own creative thinking. First, as plaster walls, stacks, and lofts were torn down, two covered-up skylights were found in the ceiling/roof. The cover of *Introduction to Applied Creative Thinking*, in fact, depicts a student with an iPad standing below one of these windows to the outside world. For us that complete concrete image suggests the tenor of creative thinking.

As the Noel Studio moved from concept to reality, a wooden spiral staircase was installed in the middle of the location. In the beginning, the spiral staircase suggested to us the tenor of the revised Bloom's Taxonomy and the movement up it the progress from lower-order thinking to the higher order thinking. The more we went up and down the spiral staircase, however, the more we began to see another found metaphor. Our University's SACS-necessitated Quality Enhancement Plan is that it "will graduate informed critical and creative thinkers who communicate effectively." The spiral staircase suddenly seemed to look like the double helix used in biology to describe the structure of DNA, but for us the two strands envisioned were the inter-related critical and creative thinking.

Rusty Carpenter, Director, Noel Studio for Academic Creativity
Charlie Sweet & Hal Blythe, Co-Directors Teaching & Learning Center
Eastern Kentucky University

Helping Students Study

How do students study? Why do they use these strategies? Are they the best ones? Share the findings of a foundational study on the best learning strategies (Dunlosky et al., 2013), and have students compare their practices to these findings.

Most Effective Study Strategies

Practice Testing

Self-testing or taking practice tests over to-be-learned material.

Distributed Practice

Implementing a schedule of practice that spreads out study activities over time.

Moderately Effective

Elaborative Interrogation

Self-Explanation

Interleaved Practice

Least Effective

Re-reading

Summarization

Highlighting

Keyword Mnemonic

Imagery-to-Text

CETL adapted this material from Adam Persky's 2012 Teaching Tips.

Helping Students Study

The Most Effective

<u>Practice Testing</u>: Self-testing or taking practice tests over to-be-learned material

<u>Distributed Practice</u>: Implementing a schedule of practice that spreads out study activities over time

Moderately Effective

<u>Elaborative Interrogation</u>: Generating an explanation for why an explicitly stated fact or concept is true

<u>Self-Explanation</u>: Explaining how new information is related to known information, or explaining steps taken during problem solving

<u>Interleaved Practice</u>: Implementing a schedule of practice that mixes different kinds of problems, or a schedule of study that mixes different kinds of material, within a single study session.

Least Effective

<u>Rereading</u>: Restudying text material again after an initial reading

<u>Summarization</u>: Writing summaries (of various lengths) of to-be-learned texts

<u>Highlighting/underlining</u>: Marking potentially important portions of to-be-learned materials while reading

<u>Keyword Mnemonic</u>: Using keywords and mental imagery to associate verbal materials

<u>Imagery used for text learning</u>: Attempting to form mental images of text materials while reading or listening.

References

Dunlosky J., Rawson, K., Marsh, E., Nathan, M. J., & Willingham, D. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest, 14*(1), pp. 4-58. doi: 10.1177/1529100612453266

Karpicke, J.D. (2012). Curriculum Dir Psych Sci, 21: 157-163

Karpicke, J.D., et al. (2009). Memory, 17: 471-479

For more information about this technique or questions about teaching and learning, contact aperskey@unc.edu

Collaboration

Maximizing the Performance of Informal Groups

Send-a-Problem: Critical Thinking Cooperative Learning

Mind Your MCQ's: Thought-Provoking Multiple Choice Questions for Peer-Teaching

Maximizing the Performance of Informal Groups

Informal group work in class affords the benefits of collaborative learning without the more complex issues of group management. Nevertheless, issues can still arise that hinder these benefits. Rather than accepting such hindrances as inevitable, identify them and plan a strategy to disrupt them.

The Wanderers

Did you see that episode?

YES! I can't believe...

Did I do my homework for my next class?
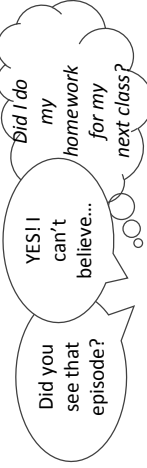
Keep students accountable with suitable challenge, tight time limits, and a product to present.

The Moochers

They seem like they've got it. Just don't say anything!

Routinely call on individuals to report for groups. Use random selection strategies.

The Regulars

But we're usually together …

Looks like it's us again!

Change the composition of groups at least a few times throughout the semester.

CETL adapted this material from Linda B. Nilson's contribution to the 2014-2015 Teaching Issues Writing Consortium's Teaching Tips.

Maximizing the Performance of Informal Groups in Class

We faculty tend to love using informal (*ad hoc*) groups. Students derive most of the learning benefits of group work, and we find them relatively easy to administer easy compared to long-term formal groups that collaborate on one or more substantial assignments outside of class.

These groups are ideal for clicker-question exchanges and lecture-break activities, and we can set them up of any size on the fly ("Work with the two fellow students sitting next to you."). They are too short term to provoke student concerns about someone freeloading, sand bagging, dominating, controlling, ego tripping, bullying, whining, or engaging in some other collaboro-pathic behavior, so we don't have to play marriage counselor. In addition, students don't have to peer-evaluate, and we don't have to read these evaluations or incorporate them into the final grades.

However, just because we don't have students coming to our office with complaints does not mean these informal groups are functioning well. Circulate among them and listen closely. Some groups wander off task or never get on task. Others lean on one or two of its members to generate ideas, solve the problems, explain correct answers, and so on. After all, students tend to sit in the same place every class period even if they don't have to, and some of them either create problems for others or suffer from these problems.

Here are some strategies to prevent these problems.

Groups Not on Task

Of course, you should circulate around the classroom to let students know you're monitoring their progress. But you can also do the following:

- Make sure every task that you assign to groups is challenging — specifically, that it requires thinking that goes beyond what the students have read or heard you say. The task may assess students' conceptual understanding, ability to apply the material, analytic skills, or evaluative judgment. In any case, it should require synergy for students to perform.
- Give students a tight time limit in advance, and enforce it. Students will see that they have to focus to get the task done.
- If suitable for the task, require that groups submit a written or drawn product that all group members must sign. (You can use these submissions to take attendance or to a give students a point or two for completion.)
- If the task doesn't call for a product, just cold-call on a few groups "randomly" to report out and explain their answers.

Send-a-Problem
Critical Thinking Cooperative Learning

Get students involved in group discussion by directing student groups to write questions to send to other groups. Writing the question on one side of a notecard and answer on the other allows groups to evaluate how other approach the problem similarly and differently.

Q → Label each side clearly: Q for question, A for answer (on the other side)

Once the instructor provides a topic or a critical thinking question, student groups write their own question on the front of the notecard.

Students discuss and determine their best answer and write it on the back of the notecard. →

The next group discusses the question. Once determining their answer, they review the answer on the back. The questions can be passed onto multiple groups.

Send a Problem

Descriptions: Methods used to get students involved in group discussion. Students generate questions and an appropriate answer written on a notecard. The question card is sent to multiple groups of students to discuss and answer the question allowing for revision.

Purpose: To facilitate group discussion, creative thinking and problem solving. Also, encourages revision of questions and outside-of-the-box thinking because alternate answers can be found. The process mirrors real-life scenarios that do not always have only one correct answer.

Procedure:
1. Divide students into small groups. Provide each group with a topic on which to base a review or critical thinking question.
2. Each group will write a question on the front of a note card. Indicate the question side with a Q.
3. The group will determine the best answer and write it on the back of the note card. Indicate with an A.
4. Questions are then passed to another group.
5. Without looking at the answer, the second group will discuss and formulate the best answer.
6. Once at a consensus, Group 2 will check their answer with the answer on the back. If the groups don't match, group 2 will discuss again. If appropriate, group 2 will write it in as an alternate or combine answers for a more comprehensive response
7. Questions can be passed to multiple groups.

Variation: Instructor can provide pre-written questions to each group. Students discuss in groups and send their answer along to other groups for assessment and addition of potential alternate answers.

For more information about this technique or questions about teaching and learning contact apersky@unc.edu copyright 2012

Barkely, E.F. et al., (2004). Collaborative Learning Techniques: A Handbook for College Faculty. Jossey-Bass.

Mind Your MCQs
Thought-Provoking Multiple Choice Questions for Peer Teaching

Multiple choices questions are our go-to for quick assessment of simple content recall, but we also can use them as directed peer teaching opportunities.
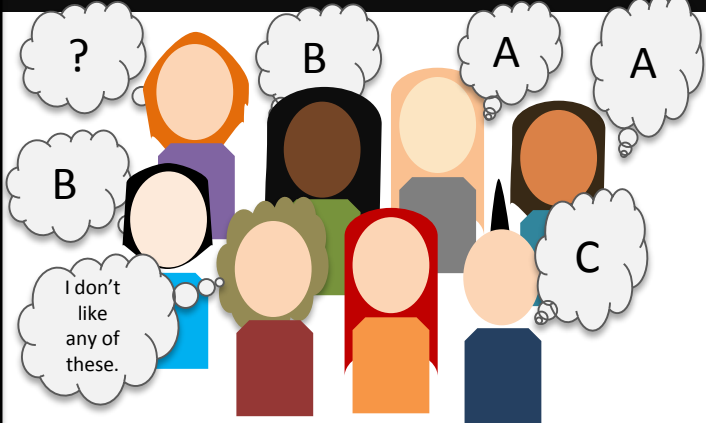
Students individually consider a question and select an answer.
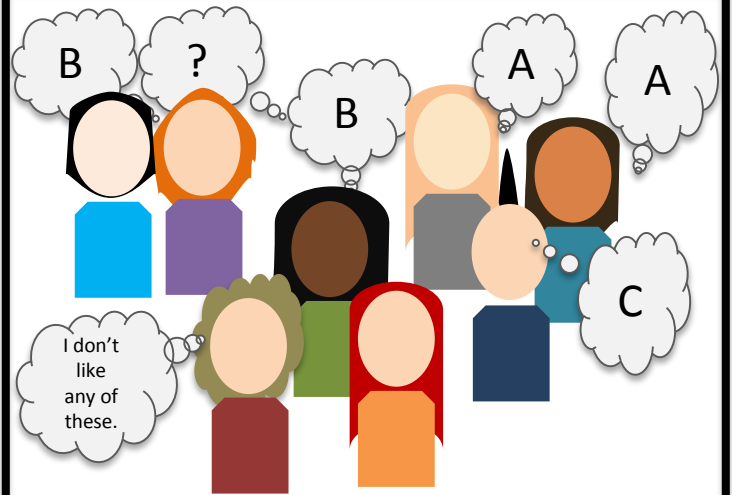
In groups assigned at the beginning of class, students discuss potential questions, group selects question and discusses an answer to this question.
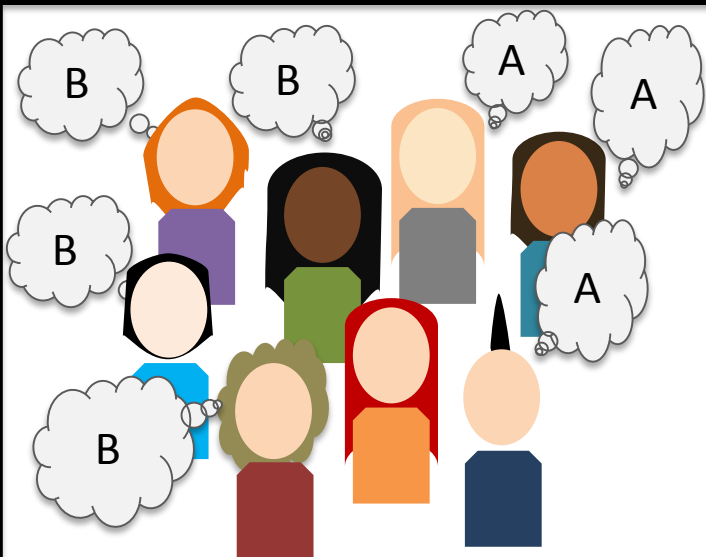
Once students reconvene into a large group and as an entire class, they vote again on the proposed group questions.

Large group discussion follows, which is led by student explanations.

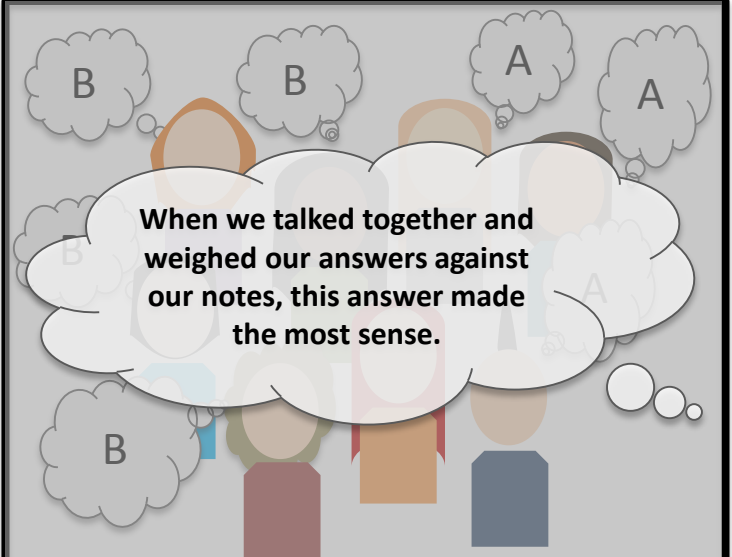**Mind Your MCQs: Thought-Provoking Multiple Choice Questions for Peer Teaching**

Peer teaching is process by which students learn from fellow students about the subject material. Peer teaching strategies includes breaking students up into small working groups, which helps to break the monotony of a didactic lecture and provides immediate feedback regarding the students' level of comprehension. The use of multiple choice questions (MCQ) and peer teaching strategies in a Flipped Classroom benefit both student learning and instructor assessment of the mastery of course content.

Step-by-Step Instructions of Strategy
1. Students individually consider a question from course content and select an answer.
2. In groups assigned at the beginning of class, students discuss potential questions, group selects question, and selects an answer to this question.
3. Student reconvenes into large group and as an entire class, students vote again on the proposed group questions.
4. Large group discussion follows, which is led by student explanations.

Peer Teaching in a Flipped Classroom Session
Rationale: Having pre-assigned video lectures, students are able to active engage in the course material versus passive learning (being lectured to or at), learning at their own pace. Additionally, this strategy promotes higher order thinking skills in the classroom.

1. Record your lecture using programs like Camtasia.
2. Review your PowerPoint for accuracy, maintaining a brief and concise PowerPoint.
   a. Tip 1: Record lecture as if you are talking in front of a class by posing questions every now and then)
   b. Tip 2: Use a pre-written script to prevent awkward pauses and promote continuity throughout lecture.
3. Upload the lecture on to Moodle, giving enough time for students to listen to lecture.
4. In-class use students' reflections on lecture to promote higher order thinking about course concepts. Also, incorporate short answer essays and MCQs and discuss these responses to promote student engagement as well as promote higher order thinking.

The literature has supported and validated the use of peer teaching to greatly impact the intellectual and moral values of the student by encouraging the student to verbally express oneself, master various concepts, manage time effectively, increase self efficacy of material and establish cooperation and collaboration with peers.

Bergmann, J. & Sams, A. (20120). Flip your classroom. Eugene, OR: ISTE.
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Reading and Writing Skills

Thesis Swap and Sale: Reader-Centered Writing

Tweet from Your Seat: Variations on Peer Review

Annotating that Goes the Distance

Five Keys to Helping Students Read Difficult Texts

Thesis Swap and Sale

A strong thesis not only directs a student's writing, but communicates relevance and intrigue to its readers. Start student writers on the right track toward achieving both of these goals in an interactive, low-pressure format with Thesis Swap and Sale in which students form small groups and "sell" their topics and theses to each other.

Discussion: Round 1

Each student "sells" their topic to the group, and they choose one topic accordingly.
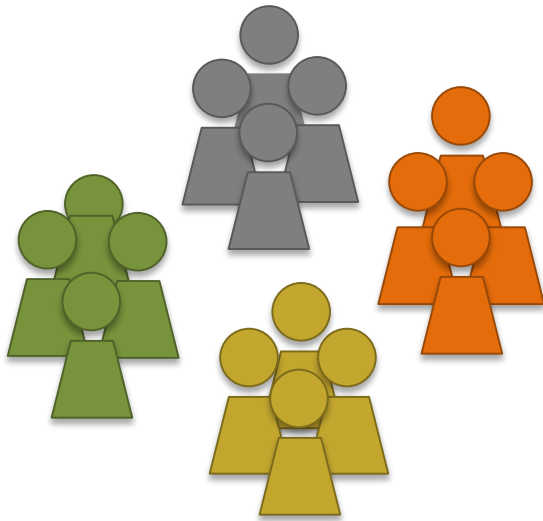
Discussion: Round 2

Each student writes and presents a thesis for this topic. After switching topics, each student walks away with a bundle of potential theses.
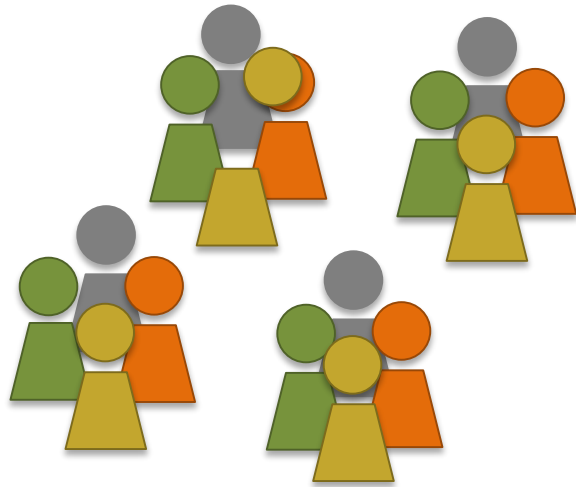
Thesis Swap and Sale

Students form small groups and have to "sell" their topics to each other. Once they "own" a new topic, they must write a potential thesis for that topic. It works like a preliminary peer editing. The goal of this strategy is to get students to engage in their writing from a reader-centered approach. It also places emphasis on the thesis statement, which is a problem area for many students.

Step-by-Step Instructions of Strategy

1. Break class into small groups (4 works best, but it can be done with 3-5).
2. Have them choose a number one through four.
3. Number one begins by explaining his or her essay topic to the group
4. The other three group members then have to "own" the topic and treat it as if it were his or her own.
5. The three group members have to write a thesis statement for that topic. I usually give them about two minutes.
6. Then, number two presents his or her topic.
7. The remaining group members do the same. Repeat until every person in the small group has three potential thesis statements for his or her topic.
8. This usually takes about ten minutes. Fifteen tops.
9. Group the class back as a whole.
10. Have each person "sell" the topic to the class; however, those in the original group cannot "buy" it.
11. Every topic has to be "sold" and "purchased" and each potential buyer may ask questions about the topic.
12. Once purchased, that individual must write a potential thesis statement for the original "owner."
13. Give to the original "owner" at the end of class.

This gives the students an experience with an informal/brief presentation, AND it gives the students one more potential thesis statement. An additional bonus is the interaction among peers in the class. The activity usually takes about a half hour to thirty-five minutes. It may take longer if you have a particularly chatty group that asks questions. Leave forty-five in your lesson plan. I usually combine this with a brainstorming activity or a short writing in class. I have also put a "for sale" sign on the board. It freaks out the students when they walk in the room. Again, side bonus.

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Tweet from Your Seat
Variations on Peer Review

Peer review is an important part of our professional work within and beyond academia, and we might employ it as a staple feedback system for students. But using the same peer review model of writing general praise and surface criticism can become a tired practice for students. The Tweet from Your Seat method puts peer review in a new context that imposes a challenge to perk up their attention: generate specific, rich feedback for a peer in 140 characters.

Peer Reviewer
@peerreview

No Introduction Needed @nointroneeded
Hits us with a punch. Brought reality into this issue. Do you need your first two sentences? Make claim clear in last sentence #intro

Patrick for Proof @patproof
Personal anecdote doesn't strike me as evidence, but good #realitycheck. Find any hard data to back it up? #evidence

For Inclusion @forinclusion
What would all of the new elementary school teachers say in answer to Smith (2013)? Isn't this #perspective worth including?

Pathos with Purpose @pathospurpose
Ms. Amos' story tugs at the heart strings. Consider what #perspectives need to know this. Can you connect it to #logos?

CETL adapted this material from Laura Gabrion's contribution to the 2013 Instructional Fair at Oakland University. ⃰

Tweet from Your Seat: Variations on Peer Review

This strategy gets students to critically read and constructively respond to essays written by their peers. Peer review is an important learning opportunity, but if we present the same peer review format over and over, they begin to automatically respond without really looking at the opportunity to provide constructive criticism. Especially with classes in which peer review is an integral element, this provides a fresh approach to peer review. The exercise is two-fold as both the peer and the reviewer benefit from refocusing upon the assignment's criteria.

Step-by-Step Instructions of Strategy:

1. Students submit a draft (whether in a course management system or physically in class).

2. Each student chooses a draft to peer review.

3. Peer review questions are supplied in class or online.

4. Each student is then able to read and consider the criticism provided by his or her peer.

5. Each student is then able to read and consider the criticism provided by his or her peer.

This strategy is used in Composition 1 and 2, first-year required writing courses. Some of the strategies have been borrowed and modified from other teachers; some of the strategies have been modified from suggestions made on the NWP website.

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Annotating that Goes the Distance

Help students read beyond highlighting.

Teaching students to identify topics and evidence in their text helps students better identify the purpose of the writing and remember what they have read.
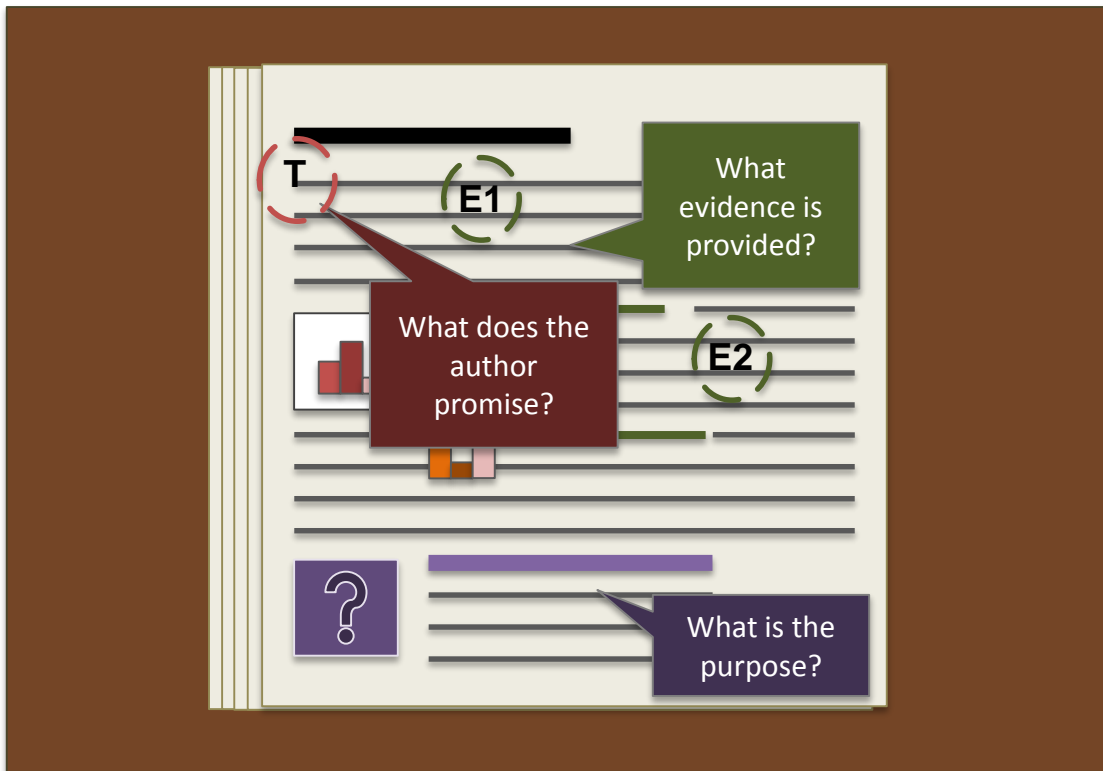
CETL adapted this material from Julie Damarell's contribution to the 2014-2015 Teaching Issues in Writing Consortium.

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Annotating That Goes the Distance

Many of my students begin class with years of experience underlining and highlighting. After the first assigned reading, they proudly show me pages that have little untouched space remaining and that boast multiple colors of highlighted lines. When I ask questions about the main ideas or details in the text they marked, they have to reread all of it.

To help them learn to mark a page in a way that is meaningful and that prevents the need to reread every word, I begin by offering short text that is reader-friendly: it begins with a stated main idea and signal words or features of font like italics that mark the major supporting details. Most college textbooks are reader-friendly, so I am showing a technique that will be applicable across disciplines and that relates directly to how they can write more clearly as well.

After we read the text once without a pen or highlighter in hand, I ask them what the author is promising, at the beginning of the paragraph, to tell them. Then we pick up our pens and pencils. When they verbally identify the topic, I ask them to mark it with the letter "T" above it or circle the topic word and write "T" or "topic" in the margin. Then I ask them what the author promises to use to make her point. When we find the proof, we mark it with numbers and/or short notes in the margins. Following that, I ask them to explain what the marks they have made indicate to a neighbor. They put this aside, and at the end of that class and at the beginning of the next one, I ask questions their marks will help them to answer, such as "What's the topic and point of this text? What proof does the author give the reader to support that point?" Many are amazed that they remember that information without looking at the page, and those that look at the page are surprised by how quickly they locate what they want. It's much easier to sell annotating as an active reading tool after experiences like this!

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Five Keys to

Helping Students Read Difficult Texts

What makes the most difference for students in their reading of challenging texts? Below are the strategies students wish they had known earlier in their college careers.

Before Reading

Preview and Build Anticipation with

T.H.I.E.V.V.E.S. and Snatches

Title
Heading
Every first sentence

Snatches While you are previewing, "snatch" here and there a look at a picture, graphics, and always a sentence randomly or purposefully selected from the text. Then ask, "What interesting and important things might I learn from this text?"

End questions
Vocabulary

During Reading

Synthesizing Along the Way

Download

Make connections between points in the content, quickly drawing a map choosing a downloading pattern.

Pictorial

Linear

main point

Subpart Subpt Subpt

main point

After Reading

Explain What You Have Learned

Be the Teacher

<u>Class Discussion</u>

Provide examples.

Connect beyond the text.

Justify your perspectives.

Five Keys to Helping Students Read Difficult Texts

"You may be surprised that many of your students are not adequate readers of the texts you assign. Many simply do not know how to approach a challenging informational text. You can suggest five things that can make a big difference to help them read your texts with facility and intellectual engagement. How nice to have students coming to class prepared and full of inquiry!"

What makes the most difference for students in their reading of challenging texts? Below are the five top strategies students wish they had known earlier in their college careers. (The sources and inspiration for these strategies are based on Isakson, *Learn More & Read Faster*.)

1. Before Reading: Preview & Build Anticipation
2. Before Reading: Set Purpose
3. During Reading: Synthesize Along the Way
4. During Reading: Ask Questions
5. After Reading: Explain

Before Reading: Preview & Build Anticipation — *T.H.I.E.V.E.S. with Snatches.* Previewing, looking over a text before reading it carefully, is considered a key strategy of effective readers. The three main functions of previewing are to see how a text is put together, to realize the content of what you will be learning and thereby build or bring to memory background knowledge about the topic, and to give you enough of the content to set valuable purposes for reading it more carefully. Building anticipation, a separate principle from previewing but often done at the same time, motivates you to become engaged and committed to reading an academic text. It takes reading out of the realm of going-through-the-motions and puts your mindset solidly in the realm of "I have much I want to learn from this and I want to." _T.H.I.E.V.V.E.S. with Snatches_ is one strategy for doing this, although there are others (see Six Ways to Become Fascinated by a "Boring" Text).

1. **T**itle
2. **H**eadings
3. **I**ntroduction
4. **E**very first sentence of sections or paragraphs[2]
5. **V**isuals
6. **V**ocabulary, often bolded
7. **E**nd questions or Every author-generated question
8. **S**ummary

2. Before Reading: Set Purpose — *Launch.* Setting a purpose before reading declares your destination. If you are going on a journey, having a destination helps in you make decisions along the way. You know where you are headed and what you want to accomplish along the way. The student who took five hours to read twelve pages wanted to

get "everything" out of the text. Well, five hours is not nearly enough time to do that. It is like saying I want to explore every rock and gully in the Rocky Mountains. Five hours won't do it. This is not only an unrealistic purpose, but it is detrimental to accomplishing your long term academic goals. There are many other important reasons to set purposes. _Launch_ lists useful steps for setting purposes for reading. Closely connected is After Reading: Check Purpose _Met Purpose?_ because you will want to follow through to be sure you met your purposes for reading.

3. During Reading: Synthesize Along the Way — *Download*. _Synthesizing Along the Way_ means pulling together the pieces of what you are learning at points during the journey of reading a text. Synthesizing involves explicitly looking for related words, concepts, and ideas in the text and using them to construct a main idea or summary statement. This **during** principle involves stopping after a section of text and noting what you are learning from the reading. You do this quickly, just enough to hold the information until you can think more deeply about it later. _Downloading_ is a quick way to do this.

4. During Reading: Ask Questions — *Prof's Questions and My Questions*. *Asking Questions* is approaching a text with wonder. Asking genuine questions is more important for learning than having pat answers. Reading with questions in mind is an important part of critical reading; you challenge ideas and demand an understanding of the author's meaning and purpose. As you try to answer your questions, do not be satisfied with shallow answers. Go beyond the text if necessary. Appreciate that the best questions have no ready answers. Some questions take days, years, or centuries to answer while some may never have sure answers but are questions still worth asking and thinking about. Good questions change the world. When you sustain your questions, ponder them, and allow them to give birth to new questions, you are becoming a scholar. Nothing is a more important tool for a scholar than asking good questions.

You have been asking questions since you could talk; it is a natural way of being in the world. Bring that same curiosity to the text.

- Ask questions **before** you read to give purpose for reading—to discover answers you really want to know.
- Ask questions **during** reading to clarify meaning, to probe for understanding, to be metacognitively aware, and to gain new insights.
- Ask questions **after** reading to review, to reflect on the significance of what you have learned, and to generate new thinking.

One strategy for asking questions when you are in the survival mode is _Prof's Questions_. Beyond that are asking your own questions, Socratic questions, and probing questions for critical and creative thinking, but that is not our purpose for now. Suffice it to say, do not let *Prof's Questions* be your only questions.

5. After Reading: Explain — *Be the Teacher*. <u>*Explaining*</u> is partly retelling but is also providing examples, connecting to information outside of the text, and justifying your outlook on the content. Understanding goes beyond mere knowledge of facts, giving back on tests the official theory of the textbook or professor, or telling someone about it. <u>Making yourself explain what you understand</u> pushes you to a higher level of comprehension. Explanation involves the following:

1. Knowledge of Why and How:

   - Providing knowledgeable and justified accounts of events, actions, and ideas and the reasons or theory behind them
   - Verifying knowledge with examples, predictions, support, analogies, or theoretical perspective

2. Warranted Opinions:

   - Justifying how you arrived at an answer and why it is right
   - Giving valid evidence and argument for a view and being able to defend that view against other views
   - Seeing the guiding principles behind the problem, phenomenon, or fact; seeing the principles that clarify and give value to the facts

There are strong reasons for explaining what you are learning. The strategy used to apply this principle is <u>*Be the Teacher*</u>.

Supporting Academic Reading Strategies
First of all, realize that these strategies are the beginning of academic reading, not the end. They help students come to a basic understanding of the text and help them finish their texts in a timely manner. When they feel capable of finishing their reading assignments with understanding, they are then ready for probing, critical, and analytical scholarly reading. First though, what can you do as a professor to help students take advantage of the benefits of these five basic reading strategies? Here are just a few suggestions:

- Since these strategies come from the expert-reader research and because you are the expert reader in your classroom, *share your own experiences reading the tough texts* in your field.
- When you give a new reading assignment, *suggest one or more of the strategies* you feel will be especially helpful in learning from that text assignment for your learning objective.
- Because having a strong purpose for reading is powerful in guiding one's reading, you can *give students purposes* for reading. The purpose can be as generic as "To learn something fun. To challenge my current perceptions. To prepare to teach others," or it can be as targeted as "Draw the respiratory system from memory and describe in

detail the purposes and functions of each part of this system." Students' common purpose, of "To pass the quiz," is useless for focusing and guiding one's reading.

- Challenge students to *come up with their own important purposes* specific to the text and have them share these in class on the due date of the reading. How did they come up with the purposes? How did these purposes help them learn from the text?
- Adapt the *handouts* linked to this tip to your discipline and give students a hard or electronic copy. Introduce it and encourage them to use it. Remind and discuss it after they have had experience trying the strategy with your assigned readings. "What did you try? How did it work for you? Why?"
  - T.H.I.E.V.V.E.S. with Snatches
  - Six Ways to Become Fascinated by a "Boring" Text
  - Launch
  - Met Purpose?
  - Why Synthesize Along the Way
  - Downloading Patterns
  - Prof's Questions
  - Why Try to Explain What You Are Learning
  - Be the Teacher
- Hold a quick *discussion* with students about what constitutes effective approaches to academic reading (supporting yourself **before**, **during**, and **after** reading.).
- Ask several *readers to report* to the class what they've been doing that has helped them successfully read your texts – in terms of rate, basic comprehension, and higher order critical thinking.
- *Hold a contest* for the students who can predict the most questions you give on a quiz or exam.
- Encourage students to *form study groups* and have them share their strategies for reading well in preparation for the study group. Suggest they do "Be the Teacher" during the study group sessions.

Additional Resources:

Adler, M.J. & Van Doren, C. (1972). How to read a book: The classical guide to intelligent reading. New York: Simon & Schuster.

Flippo, R. F., & Caverly, D. C. (2009). Handbook of college reading and study strategy research, 2nd ed. New York: Routledge (Taylor & Francis).

Isakson, M. B. with Isakson, R. L., & Windham, I. (2011). Learn More & Read Faster. Provo, UT: BYU Publishing.

Isakson, M. B., Gilbert, J. B., Isakson, R. L., & Loud, Z. S. (ms in prep). "How Undergraduates and Professors Read Academic Texts and Implications for Teaching." You may request a copy of the final report at marne_isakson@byu.edu.

Pressley, M., & Afflerbach, P. (1995). Verbal protocols of reading: The nature of constructively responsive reading. Hillsdale, NJ: Lawrence Erlbaum for a review of 38 expert-reader studies.

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Assessment

The Power of Tests to Teach

Writing and Evaluating Effective Multiple Choice Tests

Collaborative Testing: Maintaining Rigor While Increasing Critical Thinking

The Power of Tests to Teach

Conventional wisdom is that new information is acquired while studying and then the extent to which the material has been successfully learned is assessed through testing. Typically, most individuals consider examinations neutral with respect to the actual learning process. Researchers are now reporting that tests themselves may be an important part of long-term retention of new information (Karpicke & Roediger, 2007).

In **CONDITION 1**, students read blocks of information related to the test four times, waited five minutes, and then took a quiz.

REQUIRED READING — REQUIRED READING — REQUIRED READING — REQUIRED READING — 5 MIN — QUIZ
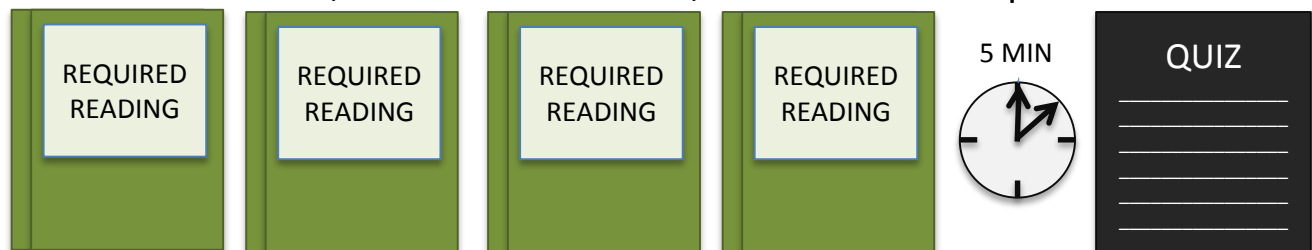
In **CONDITION 2**, students read blocks of information related to the test three times, took a practice test (receiving no feedback), waited five minutes, and then took a quiz.

REQUIRED READING — REQUIRED READING — REQUIRED READING — PRACTICE TEST — 5 MIN — QUIZ

In **CONDITION 3**, students read blocks of information related to the test just once, took three different practice tests (receiving no feedback), waited five minutes, and then took a quiz.

REQUIRED READING — PRACTICE TEST — PRACTICE TEST — PRACTICE TEST — 5 MIN — QUIZ

While **CONDITION 1** yielded better results on the quiz, those in **CONDITION 3** scored significantly better one week later.
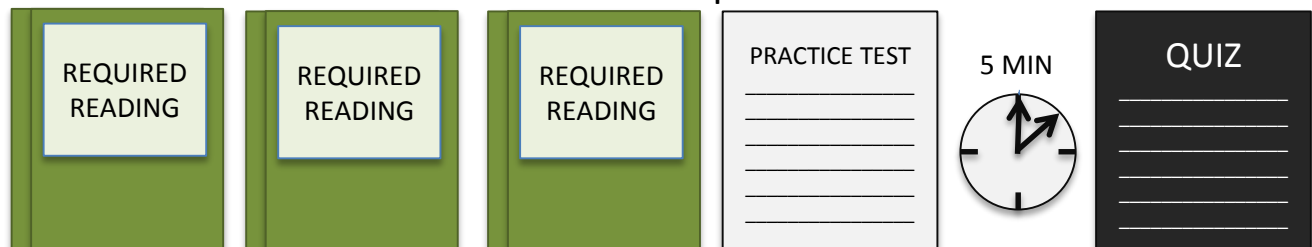
The Power of Tests to Teach

Conventional wisdom is that new information is acquired while studying and then the extent to which the material has been successfully learned is assessed through testing. Typically, most individuals consider examinations neutral with respect to the actual learning process. Researchers are now reporting that tests themselves may be an important part of long-term retention of n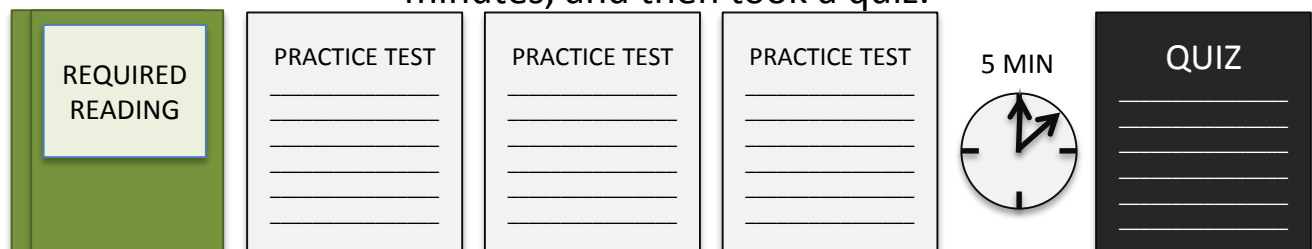ew information (Karpicke & Roediger, 2007). In one such experiment subjects learned new material by reading blocks of information. In one condition subjects read the test material four times and then took a quiz over the material five minutes following the last reading session. In a second condition, subjects read the block of material three times, took a practice quiz (no feedback) and then five minutes later took a different quiz over the material. In the final condition subjects read the material only one time and then took three different practice quizzes (no feedback on any of the quizzes) and five minutes after the last practice quiz took a quiz over the material. As expected, for these three conditions the more time spent studying demonstrated higher quiz scores. Surprisingly, however, was the performance on quizzes one week later. At that later time there was a significant reversal of three groups. Those who had repeated practice quizzes performed significantly better than the group who had more repeated study opportunities. Perhaps most interesting is that there was a very small (relatively speaking) decrease in performance over time for the group who had multiple testing opportunities (particularly as they received no feedback on the practice tests).

Several additional studies have confirmed the importance of repeated recall in solidifying information in long-term memory. Implications include the value of in-class practice quizzes in class, group discussions (additional recall), and students quizzing one another.

(If you would like additional information about this phenomenon please contact: todd_zakrajsek@med.unc.edu.)

Resources:

Karpicke, J.D., & Roediger, H.L. (2007). Repeated retrieval during learning is the key to long-term retention. Journal of Memory and Language, 57, 151-162.

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Writing and Evaluating Effective Multiple Choice Tests

When we gather the results of multiple-choice exams, we may notice questions many students answered the same way, but incorrectly. How do we interpret this? Is there a good time to throw out a question? This week's teaching tip focuses on some resources to help us create and use better multiple-choice exams, but can also apply to other forms of assessment.

Name: _____   Date:_____

Multiple-choice exams are often part of the assessment repertoire of many faculty because they are easy to grade. But writing good multiple-choice tests is hard to do for a few reasons:

A   **Most of us have had no training whatsoever in creating these kinds of assessments.**
Asking questions and getting answers is not hard. Asking good questions that get students to think the way you intend—that is hard.

B   **Students have developed really good test-taking skills.**
Many students know to eliminate nonsense answers to narrow choices with the best odds. But we want our tests to make students think more carefully about content!

C   **It is easy to forget what we are measuring when we use multiple-choice tests.**
Rather than just looking at norm-referencing rules for good questions, quantitatively evaluate how the class as a whole approached questions.

D   **all of the above**

CETL adapted this material Regis Universiity's Ken Sagendorf's contribution to the 2013-2014 Teaching Issues Writing Consortium

Multiple-Choice Tests: When do you throw out a question?

In the last couple of weeks, I have had multiple faculty approach me asking about their multiple-choice tests that they have given in their classes and specifically, asking when to get rid of a question based upon student responses. This week's teaching tip focuses on some resources to help us create and use better multiple-choice exams but the information included applies to all types of assessment.

Multiple-choice exams are often part of the assessment repertoire of many faculty because they are easy to grade. But writing good multiple-choice tests is hard to do. I think there are a couple reasons that make this so:

1. Most of us have had no training whatsoever in creating these kinds of assessments.

When I was in grad school, we had a joint doctoral program between Exercise Science and Science Education. My Exercise Science department head gathered all of the doctoral students together to ask us what we thought the value of the education side was. Among the only people to speak up, I asked my department head how he knew if he was asking good multiple-choice questions. He responded that he kept asking the same ones for three years and threw out those where students couldn't answer correctly. He said it wasn't hard. He was right. Asking questions and getting answers is not hard. Asking good questions that get students to think the way you intend, now that is hard. Needless to say, I finished my Ph.D. in Science Education.

There are many, many resources about MC tests out there from some very quick and applied papers (i.e., http://www.theideacenter.org/sites/default/files/Idea_Paper_16.pdf) to full books and research articles (i.e.,http://web.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=81790701-e732-4a68-9e0c-993437437ef1%40sessionmgr111&vid=4&hid=122).

2. Students have developed really good test-taking skills.

As a native New Yorker, I grew up taking Regents exams – tests at the end of the year in science, math, foreign language, English, social studies, etc. In four years of high school, we took 11 or 12 of these tests and we bought these books teaching us how to take and pass the tests. Our students today have likely taken many more tests than I or you would have and may have even been privy to the prep courses that prepare people for the SAT, ACT, GRE, LSAT, MCAT or any of the plethora of multiple-choice laden tests. They know the drill. Read the choices. Eliminate the choices that make no sense with the others. You can probably narrow down the choices to two. This is not what we envision when we give a test! We want students to think! So, we need to eliminate the ability for students to do well on test taking skills alone. The BYU guide for writing MC questions has been around a long time but I think it is still one of the best guides out there for how to construct good questions:
http://testing.byu.edu/info/handbooks/betteritems.pdf

3. It is easy to forget what we are measuring when we use multiple-choice tests.

I have been approached in the last couple weeks by faculty telling me that they heard that they should throw out MC test questions if 50% of the students get the question wrong (I will explain in the next paragraph where this comes from). Another faculty told me that the value was 65% (I believe this is slightly confused with accepted value for how reliable a question is – a way of analyzing your tests). Now, these numbers are not incorrect but they need the proper context around them.

For instance, if you are using a MC test to identify the top performers in your class (this is also known as norm-referenced testing), then it may be proper to write a test where 5% of the items are answered correctly by 90% of the students (to boost confidence), 5% of the test items are answered correctly by 10% of the students, and the remainder of the items are answered correctly by an average of 50% of the students (Davis, 2009). This is where I believe the 50% number comes from.

Certainly, there are many ways to quantitatively evaluate your tests but it is important to recognize that it is not the only way.

If you are using a MC test to measure if students are using information, skills, and competencies (like critical thinking) that you want all students to have acquired, you are testing for something different – how well the test questions represent the things you want them do. In this case, when students perform poorly on test questions, there are multiple possibilities: was the test item unclear or poorly written? Was the content of the question too challenging? Were the students insufficiently prepared? Looking at the choices that students made in a bar graph format will give you some insight as to how students were thinking when they answered. Here, if a good number of your students chose the same answer, whether it was the right answer or a wrong one, it would be indicative that the thinking students used was similar and that the question posed was a good question at measuring that way of thinking. It is your call as to whether that was the kind of thinking you desired to have them do.

There are many resources on campus and online to assist you in these questions and the quest to write better multiple choice tests.

Resources:

Clegg, V.L. and Cashin, W.E. (1986)"Improving Multiple Choice Tests." Idea Paper. No. 16. Found online at: http://www.theideacenter.org/sites/default/files/Idea_Paper_16.pdf

Davis, B.G. (2009). Teaching Tools. 2nd Edition. San Francisco: Jossey-Bass. Available in the CETL.

Jacobs, L.C. and Chase, C.I. (1992). Developing and Using Tests Effectively: A Guide For Faculty. San Francisco: Jossey-Bass. AVAILABLE IN THE LIBRARY AT: http://lumen.regis.edu/search~S3/?searchtype=t&searcharg=Developing+and+Using+Tests+Effectively%3A+A+Guide+For+Faculty&searchscope=3&SORT=D&extended=0&searchlimits=&searchorigarg=ttips+for+improving

Kehoe, J. (1995). "Writing Multiple-Choice Test Items." Practical Assessment, Research and Evaluation. 4 (9). Full text available through the library: http://pareonline.net/getvn.asp?v=4&n=9

Lowman, J. (1995). Mastering the Techniques of Teaching. San Francisco: Jossey-Bass. Available in the CETL.

Sehcrest, L., Kihlstrom, J.F., and Bootzon, R. (1999). How to Develop Multiple-Choice Tests. IN B. Perlamn, L.I. McCann, S.H. McFadden (Eds.), Lessons Learned: Practical Advice for the Teaching of Psychology. Washington, D.C.: American Psychological Society.

Wergin, J.F. (1988). "Basic Issues and Principles in Classroom Assessment." In J.H. McMillan (Ed.), Assessing Students' Learning. New Directions for Teaching and Learning, No. 34. San Francisco: Jossey-Bass. Available through Prospector.

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Collaborative Testing
Maintaining Rigor While Increasing Critical Thinking

Collaborative testing … on an exam? How could that actually work?

Students start by taking an exam in a traditional method such as Scantron, and put an I on the top of it when they are done.

When individual exams are complete and submitted, students get into groups to go over the exam and individually fill out another test form based on these answers.

If individual grades are over a 78, the instructor will average the group and individual grades. Students can't earn their way into a passing grade by the saving grace of the group, but they can earn extra points based on this voluntary group effort. If individual grades are higher than the group, the student keeps the individual grade.

Maintaining Rigor While Increasing Critical Thinking Through Collaborative Testing

After students complete individual examinations they form into small groups and take the same examination as a small group where they can discuss the questions and rationale for the answers.

Step-by-Step Instructions
1.   Develop examinations, only need one copy of each examination. Will use the same examination for the individual and group test.
2.   Develop groups, 5-6 students per group. Students can either self-select group members or faculty can assign groups. If students self-select, faculty then has the right to add students to groups that are not full to make sure that groups are evenly distributed.
3.   Students take individual examination on their own using their own scantrons (traditional method do taking examinations). After completing examination, students hand in their scantrons with an "I" (individual at the top, leave the examination on their own desk face down, and wait in hall until the individual examination period is complete.
4.   Students return to classroom when faculty designates, takes their own examination and a new scantron to an identified location in the classroom for their small group. On the top of the scantron they put "G" (group).
5.   Students begin to take examination as a group when faculty states it is time to begin and are given a designated time (usually an hour) to complete the examination. Each student can fill out the scantron with any answer they select; they do not have to choose what the group agrees upon.
6.   After completing the group examinations, as a group they hand in their scantrons and then wait until all participants have completed the group examinations. The students keep their examinations at their desks again face down.
7.   After the allotted time and all scantrons are handed in, the faculty then reviews the answers to the examination so all the students have immediate feedback on their performance. I stress that I still need to grade the examinations and will review using point-by-serial. If a question is deemed unclear and misleading, I throw the question out. Their grade may be higher than what was indicated during the review.

Grading
1.   Grade the individual students' grade on the examination.
2.   Grade the group grade for the student on the examination.
3.   If the student receives 78% or better on the individual examination, they are eligible for the group examination grade.
4.   Group examination grade is the average between the individual grade and the group grade.
5.   It is important to note that students MUST pass the class on their own individual grades for the examinations (70% overall) before any group grades are considered. They cannot pass the class because of group grades, but they can receive a better grade in the class because of the group grade so rigor is maintained while encouraging the objectives mentioned above.
6.   If an individual grade is higher than a group grade, the individual grade is the final grade. There are no negative consequences for taking group examinations and I rarely have students refuse to participate in the examination.

Submitted by:
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Lynda Poly-Droulard, MSN, MEd, RN
Marla Scafe, PhD

Teaching with Technology and Online Learning

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Audio Feedback with Vocaroo

Have you ever found students not reading the comments you place on their papers? Have you had students misinterpret the good intentions behind constructive feedback? Vocaroo, a free online audio recorder, records your voice and makes the audio file available in a link to pass on to your students. Audio feedback brings your tone of voice to students, minimizing defensiveness increasing their attention to the feedback.

TEXT FEEDBACK

Dear Michael:

Congratulations on finishing this project! I especially enjoyed the argument you asserted about how freshmen students are, in many ways, prepared to fail rather than to succeed.

To accompany this idea, what evidence could you use? The more evidence you build up, the stronger your case is.

As we prepare for revision, also consider the following points:

.   .   .   .   .

Please submit these revisions by Friday, October 31, and be sure to use my office hours or the Writing Center for further assistance.

- The Prof.

AUDIO & TEXT FEEDBACK

Hi, Mike! I really enjoyed your take on this project. There's something important and under recognized about how we prepare students for college. I was eager to hear real-world examples of how this happens, perhaps at OU.

I have attached further points to consider for revision. Looking forward to seeing this argument develop!

As we prepare for revision, also consider the following points:

.   .   .   .   .

Please submit these revisions by Friday, October 31, and be sure to use my office hours or the Writing Center for further assistance.

AUDIO FEEDBACK

Hi, Mike! I really enjoyed your take on this project. There's something important and under recognized about how we prepare students for college. I was eager to hear real-world examples of how this happens, perhaps at OU.

I hope you'll consider developing these ideas more in the revision, along with updating the APA style to make sure citations are consistent and match your References. Share a bit more about the people you interview as well. It sounds like you've done the hard work of research—now let's make sure it shines through.

Looking forward to seeing this argument develop!

CETL adapted this material from Penny Lorenzo's contribution to the 2014-2015 Teaching Issues Writing Consortium's Teaching Tips.

Using Vocaroo to Give Audio Feedback on Assignments

Have you ever found students in your class not reading the comments you place on their papers? Have you ever had students misinterpret the good intentions behind constructive feedback? Do you wish to find a way to show students how to improve on an assignment and really "hear" what you are saying? Then let me share this resource with you: Vocaroo. Vocaroo is a great online audio recorder free to use. All you need is to access the link, use the microphone in your computer, record your statement, and share the link. It is easy, it is fun, and it is effective!

I have found the best thing to do is to keep it short and sweet. I point out something the student did well on the assignment and then point to something they can improve on. They hear the tone of my voice as being instructive and encouraging. They no longer immediately feel defensive about their assignment and actually listen to the feedback I am providing. I have found that most students will actually click on the link, listen to the guidance, and make the adjustments in their next assignments. This increases their interest in the class, increases their engagement in the assignment, and increases their success in the course. You can paste the link on any digital document or forward in an email or a text. It can work for a traditional classroom setting or an online environment. It is also great for online discussion boards or announcements.
Give it a try — I bet you will like the results you see!

Submitted by:
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Pecha Kucha Presentation Technique
Micro-lectures

Pecha Kucha (PK) is a great strategy to use for micro-lecturing. This technique is a concise, visual presentation that can be used in a variety of settings, including the classroom (online or face-to-face). It works well for faculty- and student-generated content for the simple fact that it forces the presenter to be concise and deliberate with the limited time they have to present.

20 slides	20 seconds	6 minutes 40 seconds
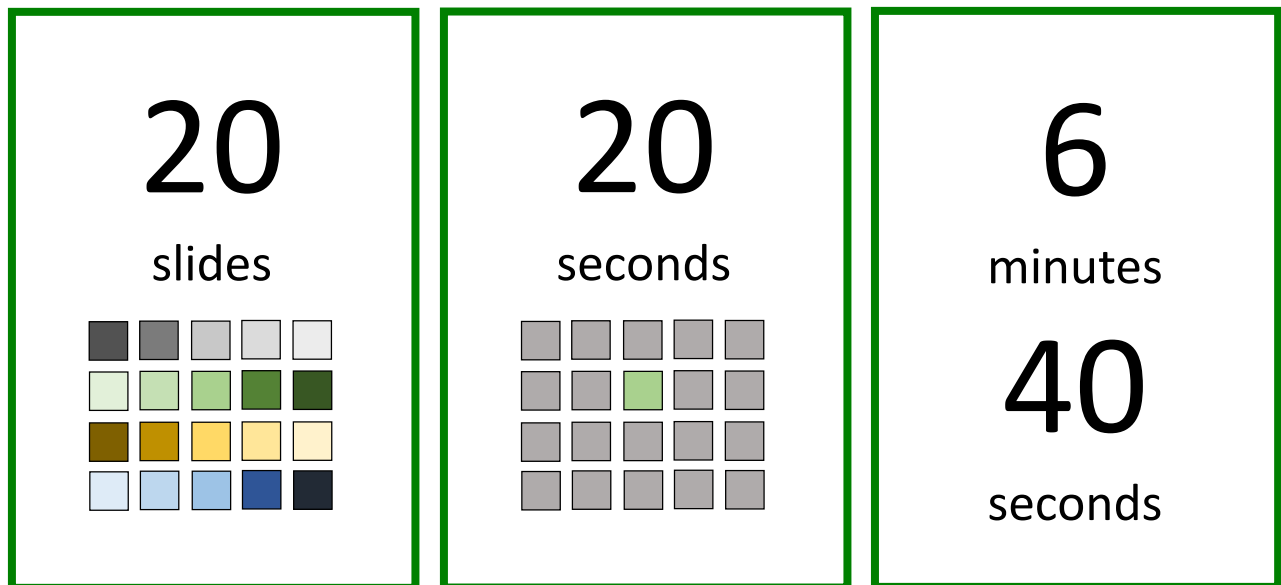
Pecha Kucha – "chit chat" (Japanese)
(petch-aa-koo-chaa)

CETL adapted this material from Kimberly Vincent-Layton's contribution to the 2014-2015 Teaching Issues Writing Consortium's Teaching Tips.

Students Sign Up with Google Appointments

As the end of the semester approaches, students become more interested in utilizing those office hours. As office hours are limited, Google Appointments allows you to show students when you are available if they want to meet with you but aren't available during your office hours. You know who is coming, when, and what they want to discuss, and you don't have to commit to waiting in your office beyond that appointment time.

Create a regular calendar event, but select the Appointment slots option and choose time duration.

Event | Appointment slots

When: Thu, June 18, 2015, 12:30pm – 3:00pm
What: Paper Feedback Sessions
Calendar: Center for Excellence in Teaching and Lea
Type: ○ Offer as a single appointment slot
● Offer as slots of: 30 minutes

Create slots   **Edit details »**
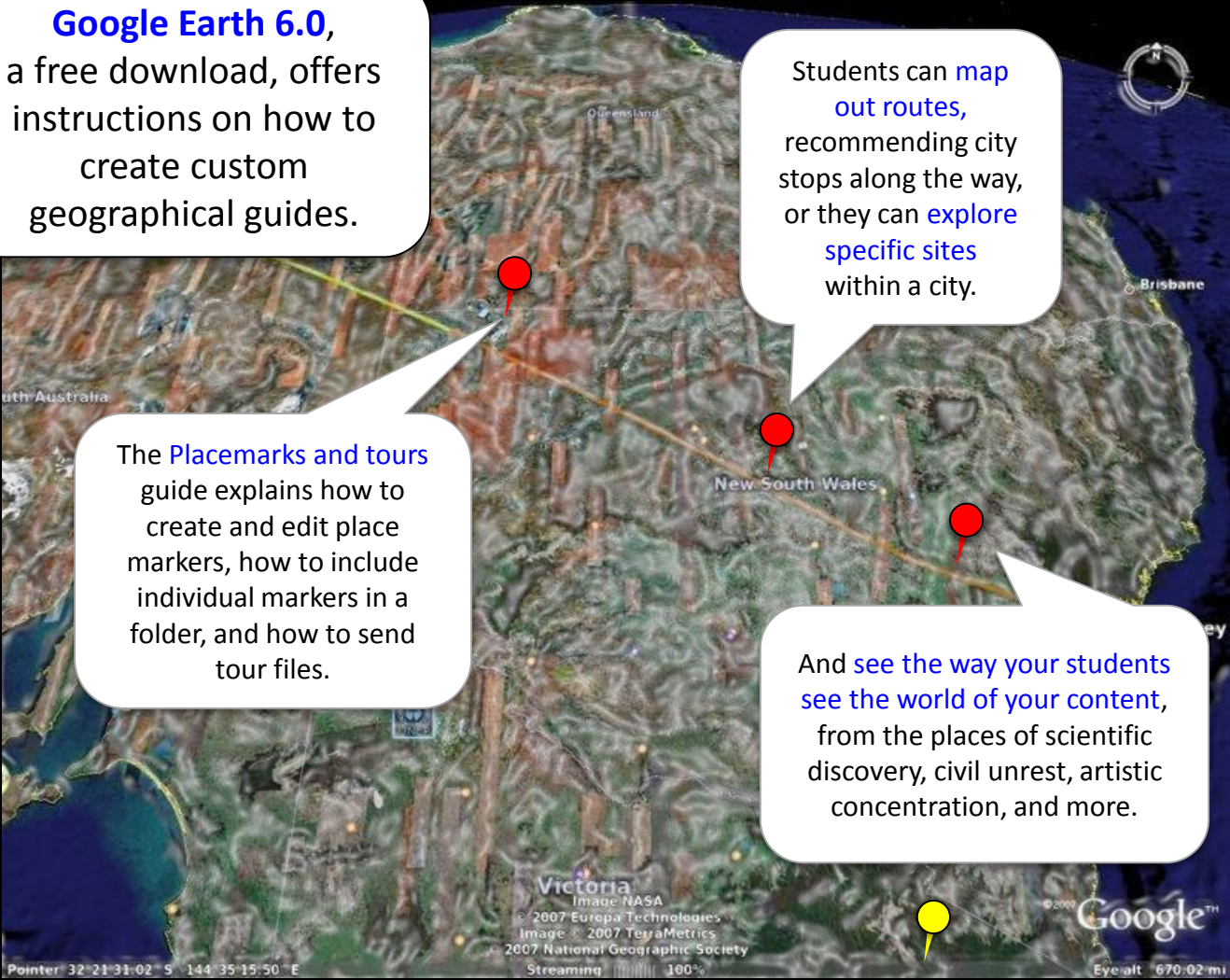
With the appointment calendar link you share, they see open appointments along with their calendar events.

Christina Moore, Writing and Rhetoric instructor at Oakland University, provided CETL this teaching tip.*

Courses that Go Places with Google Earth

Online tools can make our students stronger place-based learners. Students can use Google Earth to explore the places that involve your content and map out tours, travel routes, and activities based on a historical, literary, or scientific event. Once complete, they can hand it in like a regular assignment. They not only learn more cultural information, but contextualize the real places where abstract ideas take action.

Google Earth 6.0, a free download, offers instructions on how to create custom geographical guides.

The Placemarks and tours guide explains how to create and edit place markers, how to include individual markers in a folder, and how to send tour files.

Students can map out routes, recommending city stops along the way, or they can explore specific sites within a city.

And see the way your students see the world of your content, from the places of scientific discovery, civil unrest, artistic concentration, and more.

Courses that Go Places with Google Earth

A great first internet assignment for acclimating students to the places related to a course is to use Google Earth to allow students to explore areas, learn about them, write what they have learned with descriptions in the "pushpin" spots. They can create personalized tours based on what interests them and turn in the files as an assignment.

The example below is an instruction used for an undergraduate Introduction to Russia class. It directs students to create two virtual field trips: one involving West-East travel via the Trans-Siberian Railway; the other, involving a North-South cruise on the Volga River. This assignment uses Google Earth to introduce you to the vast geographic area which Russia occupies.

Step-by-Step Instructions of Strategy:

[Download Google Earth 6.0](#) (Free)

There are a number of video tutorials as well as step by step instructions for using the various features of Google Earth. These guides are located in the "Start-up Tips" found in the drop down "Help" tab. The links below will take you directly to tutorials which you need to complete the Landmass Assignment.

[Navigating in Google Earth](#)

Once you understand how to navigate in Google Earth, I encourage you to spend some time just exploring. Locating places which one has visited or read about can provide hours of entertainment.

Landmass Assignment

You will need to create two virtual field trips. One involves West-East travel via the Trans-Siberian Railway, while the other involves a North-South cruise on the Volga River. You will use Google Earth to complete this assignment.

The [Placemarks and tours](#) link explains how to create and edit place markers, how to include individual markers in a folder, and lastly, how to send your .kmz file to me.

Trip #1 - West-East travel via the Trans-Siberian Railway (RED place marker)

The Trans-Siberian Railway represents the longest network of railways that connects European region of Russia starting in Moscow to Vladivostok, in the Asian region of Russia. This railway incorporates stops in the following list of cities: Moscow, Vladimir , Nizhny Novgorod , Kirov, Perm , Yekaterinburg , Tyumen , Omsk, Novosibirsk , Krasnoyarsk, Irkutsk, Chita, Birobidzhan, Khabarovsk, Ussuriysk, and Vladivostok.

Instructions:

1. In addition to Moscow and Vladivostok, you are to locate ten (10) of the cities from the above list and mark each one on a Google map using a **RED** "pushpin/thumbtack".
2. Type the name of the city
3. Using "Wikipedia" find an interesting fact for each city, **AND** include it in the "description" box. (The "description box" also accepts HTML tags i.e., links to URLs and images.) [**HINT**: To include a link to a picture/graphic in the "description" box. When you add an image from the web to the description box of the placemarker, follow the procedure listed below:
• click on the tab "Add Image"
• find the image you want
• "right click" on the image and select "Copy image location"
• paste this URL link in the "Add Image" box and click save [same line as Add URL and Add image]
• add any additional comments and save your work again [Lower right hand corner]
4. Once you have marked all twelve cities, put the cities for the tour *in sequential order.*
5. Create a folder entitled "Trans-Siberian Railroad" under **My Places** and move all of your cities into this folder.
6. Save your work in **My Places**

Trip #2 – Cruising on the Volga River (YELLOW place marker)

The Volga River is one of the most spectacular rivers in Russia. Cruises on the Volga River attract many Russians and tourists from around the world. Cruises go in one of two (2) directions, to the north or to the south, often using Moscow as its starting point. Your virtual cruise, however, begins in St. Petersburg and ends in Astrakhan. In addition to St. Petersburg and Astrakhan, your cruise will pass through the following cities: Kizhi, Goritsy, Yaroslavl, Uglich , Moscow, Nizhny Novgorod, Cheboksary, Kazan, Saratov, and Volgograd.

Instructions:

In addition to St. Petersburg and Astrakhan, you are to locate eight (8) of the cities listed from the above list and mark each one on a Google map using a YELLOW "pushpin" or thumbtack" icon. Type the name of the city

From this point same instructions as with Tran-Siberian Railway

Additional comments:

I typically ask students to find an "uncommon" landmark, one that is NOT readily associated with one of the cities on the two (2) tours AND a graphic (.jpeg or .gif) that represents this landmark. I request that they send me this "uncommon" landmark to me via email. I compile these unusual facts and graphics and put together a "scavenger hunt" for the next class.

Submitted by:
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Teaching with New Media

Incorporating new media into traditional text-heavy curriculum can appear overwhelming. Where do you start? What tools should be used? How will the assignment unfold? Will students learn what they need to learn? Below are five guiding principles for getting started with teaching with new media.

Begin at the END

ASSIGN-MENT

What is the ultimate skill you'd like your students to learn through the new media assignment?

OUT-COMES

ADAPT

Instead of overhauling the curriculum, identify a part that can benefit from new media.

New Media

CHOOSE EASY TOOLS

The best strategy is to choose low-barrier tools — the ones that require minimal technical skills and resources to employ.

Bitstrips

animoto

ITERATE OFTEN

Ask your students to provide feedback before, during, and after the new media assignment, and use the feedback to make adjustments for the next round.

CULTIVATE, NOT CONTROL

Instead of restricting how students approach the assignment, focus instead on helping them achieve the learning outcome for that assignment.

The Center for Excellence in Teaching and Learning adapted this material from Mike Truong of Azusa Pacific University's contribution to the 2013-2014 Teaching Issues Writing Consortium. Images courtesy of Animoto, Bitstrips and Vimeo.

Teaching with New Media

"*When people talk to me about the digital divide, I think of it not so much about who has access to what technology as about who knows how to create and express themselves in the new language of the screen. If students aren't taught the language of sound and images, shouldn't they be considered as illiterate as if they left college without being able to read and write?*" George Lucas, filmmaker

For some instructors, incorporating new media, namely audio, video, and web resources, into traditional text-heavy curriculum/assignments can appear overwhelming. Where do you start? What tools should be used? How will the assignment unfold? Will students learn what they need to learn? Below are five basic guiding principles for getting started with teaching with new media.

1) **Begin at the End:** Start with student learning outcomes and work backwards. What is the ultimate concept, skill, or behavior you'd like your students to learn through the new media assignment? For example, if you want students to develop visual literacy, you might consider assigning a photo essay or a short video project.

2) **Adapt:** Instead of overhauling the curriculum, identify a part that can benefit from new media. Is there a component of a class or an assignment that can benefit from the use of images, audio, or videos? For example, photo analysis, audio reflections, and video essays are common new media assignments.
http://scribblejunkies.blogspot.com/2010/09/animation-101-bringing-back-bag-of.html
http://www.hopkinsmedicine.org/medart/120704.htm
http://www.livescience.com/27071-t-rex-anatomy-correct-posture.html
http://www.agilemodeling.com/artifacts/classDiagram.htm

3) **Choose Easy Tools:** The number of new media tools available today is just staggering (see links below for the most popular ones). The best strategy is to choose low-barrier tools — the ones that require minimal technical skills and resources to employ. For example, Animoto and Stupeflix are web-based video creation tools that require no technical knowledge whatsoever, but the results are pretty awesome.

4) **Iterate Often:** As with any new approach to teaching, the key is to gather feedback, make adjustments, and redeploy. An easy way to do this is to ask your students to provide feedback before, during, and after the new media assignment, and use the feedback to make adjustments for the next round.

5) **Cultivate, Not Control:** Teaching with new media requires instructors to let go of some control of the learning process. Digital students are often more savvy and knowledgeable with new media, so the key is to channel their energy towards learning. For example, instead of restricting how students approach the assignment, focus instead on helping them achieve the learning outcome for that assignment.

Resources:

Centre for Learning and Performance Technologies (2012, October 1). Top 100 Tools for Learning 2012.   Retrieved from http://c4lpt.co.uk/top100tools/ on July 5, 2013.

Dunn, Jeff (2012, November 15). The 100 Best Learning Tools of 2012 As Chosen by You. Edudemic. Retrieved from http://www.edudemic.com/2012/11/best-learning-tools-2012/ on July 5, 2013.

Wesch, M. (2009, January 7). From knowledgable to knowledge-able: Learning in new media environments. Academic Commons. Retrieved from

http://www.academiccommons.org/commons/essay/knowledgable-knowledge-able on July 5, 2013.

Submitted by:
Mike Truong
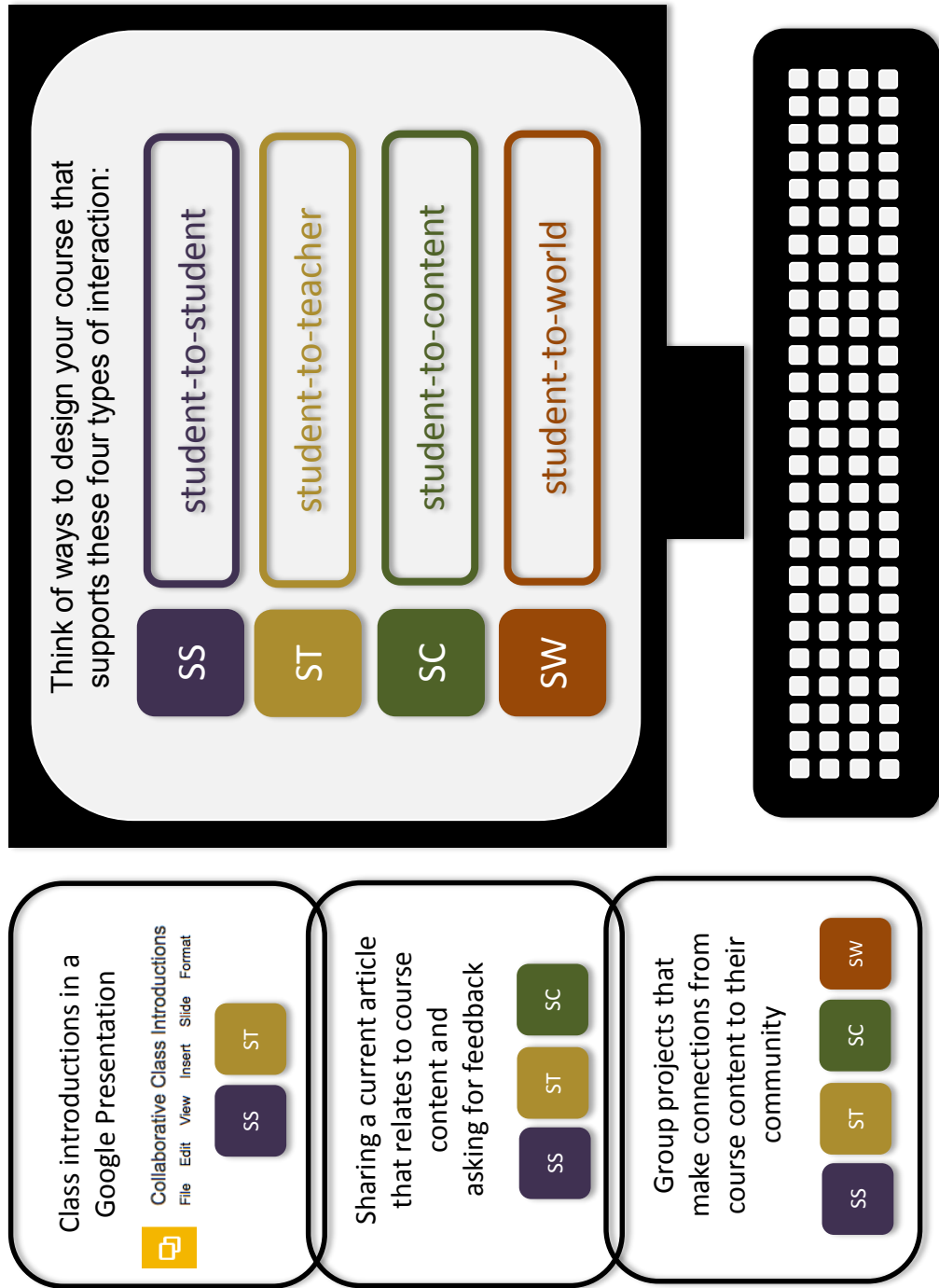Exec Director, Office of Innovative Teaching and Technology
Center for Teaching, Learning, and Assessment
Azusa Pacific University
www.apu.edu

Social Presence and Interaction in the Online Classroom

The course is built, the students are busy working on assignments, now what do you do? Plan how to provide "presence" in your online course.

Think of ways to design your course that supports these four types of interaction:

SS	student-to-student
ST	student-to-teacher
SC	student-to-content
SW	student-to-world

Class introductions in a Google Presentation

Collaborative Class Introductions

File Edit View Insert Slide Format

SS ST

Sharing a current article that relates to course content and asking for feedback

SS ST SC

Group projects that make connections from course content to their community

SS ST SC SW

Social Presence and Interaction in the Online Classroom

"*Social presence* is defined as the ability of participants in a community to project themselves, socially and emotionally, as real people through a medium of communication," (Garrison and Anderson, 2003).

In thinking about a community of learners, let us tie in one of the major themes of Lev Vgotsky's Social Development Theory. Vygotsky's theory asserts that "social interaction plays a fundamental role in the process of cognitive development." In essence, social presence is a critical element in the learning process.

Social Presence and Interaction – the Instructor
The course is all built, the students are busy working on assignments, now what do I do? As a new online instructor, or even one that has been teaching online for some time, there are many ways to provide "presence" in your online course.

Finding opportunities to communicate with your students in the online environment can seem challenging at first. Think about all the ways in which you connect to your students in the face-to-face environment and then begin to translate these ideas to online. You will find many opportunities to engage and be present. Your role as the instructor in the online environment is every bit as important (if not more!) as it is in the face-to-face classroom.

Be thinking of ways in which you can design your course that supports these four types of interaction:

1. student-to student (ss)
2. student-to-teacher/teacher-to-student (ts)
3. student-to-content (sc)
4. student-to-the-world (sw)

Opportunities may include: **sharing of personal stories and experiences, frequent feedback, and continuous conversation**.

Sharing of Personal Stories and Experiences
- **The icebreaker/creating classroom community**
  It is essential to set the climate from the start of class. In the online classroom, you can provide engaging opportunities for students to introduce themselves to you and their classmates.
  Examples:
  o A discussion forum where each student makes an introductory post and reply (ss) (ts)
  o A wiki where each student provides their name, major, hopes for the class, etc (ss) (ts)
  o A community bulletin board (try www.padlet.com) where each student posts their introduction on a class 'wall' (ss) (ts)
  o A class metaphor (i.e.: food, running, diving, etc.) to engage students by asking them to post their favorite "food" or exercise activity, etc. (ss) (ts) (sw)
  o A collaborative Google slide presentation where each student takes a slide to introduce themselves with text, images and/or video (ss) (ts)

- Ask students to submit introduction videos of themselves using their favorite mobile technology such as [VoiceThread](#) or [Vine](#) (ss) (ts) (sw)

- **Posting/Blogging** – if you are asking your student to make blog posts, use this method to communicate key concepts, reminders, and current events with your students. (ss) (ts)
- **Office hours** – encourage just as you would in face-to-face (you can even offer extra credit to encourage them to attend at least one). (ss) (ts)

Frequent Feedback

- **The weekly email –** emailing your students a weekly summary provides connections, summarizes the week, gives a preview of the next week, offers tips/suggestions, what went well, what could improve, point to exemplary student work, and encourage students to interact. (ts)
  Examples:
  - " After you post your YouTube URL to the Class Blog, don't forget to **also** paste the URL in the designated Moodle assignment area so you can receive a grade."
  - "The first quiz was a bit 'rocky', however, the technical issues have been fixed for the next quiz."
  - "Take a look at the Weekly Check-in Video on our class blog.

- **Office hours** – encourage each student to join you for office hours, just as you would in a face-to-face class.
  - Require each student to contact you at least once during the course. This can be via chat, video ([Skype](#) or [GoogleHangout](#)) or any other method that supports synchronous conversation. (ts)
  - Offer extra credit to encourage them to attend at least one session. (ts)

Continuous Conversation

- Ask a Trivia question related to a concept to get students engaged (ts) (ss) (sc)
- Post a link in the discussion forum to a current event/article that relates to course content and ask for feedback (ts) (ss) (sc)
- Provide opportunities for discussion, maybe a thought-provoking question to elicit student discussions. (ts) (ss) (sc)
- Including opportunities for collaboration, such as group projects and team discussions that ask students to explore the world around them (ss) (sc) (sw)
- Offer a poll where you ask students' opinions on something related to the course/topic (this can be really fun!). (ts) (ss) (sw)
- Mention the Student Corner ("commons area" for off-topic discussions) and offer some guidance on the purpose. (This engagement is extracurricular but it can help students build relationships that are advantageous inside the classroom. (ss)

As the instructor, it is important to provide space and encouragement for continuous 'conversation' that supports cognitive processes. Model what you are asking your students to do, so be sure to add/post/create just as they are doing. Then, reply to students' posts and welcome them individually to make that initial connection.

Social Presence – the Student

You are in the online course, working on assignments, now how do you 'meet' your classmates and get the sense that you are not alone? The online student is every bit as responsible for the social presence and interaction in the classroom as is the instructor; it is a two-way communication. Students will find that increasing their participation level also increases their motivation, which is likely to contribute to success in the course. Let's take a look at similar methods to engage: **sharing of personal stories and experiences, frequent feedback, and continuous conversation**.

Sharing of Personal Stories and Experiences

- Participate in the icebreaker activity and meet at least one other classmate that you can connect with throughout the course
- Use the course discussion forums and/or blogs to share your experience with classmates and instructor (ss) (ts)

Frequent Feedback

- Use the course discussion forums and/or blogs to communicate with classmates and instructor (ss) (ts)
- Use the instructor's office hours on a regular basis (ts)
- Read all course communication thoroughly so you don't miss out on important announcements/information. (ss) (ts)

Continuous Conversation

- Have a course-related question? Ask it in the course discussion forum. Know an answer to a classmates' question? Answer it! (ss) (ts)
- Want to find out if any of your classmates live in your area and know of any housing available? Ask in the Student Corner forum. (ss)
- Communicate regularly with your group members; they are your lifeline in the course. (ss)
- Respond to class polls and discuss thoughts with classmates/instructor (ss) (ts)

Resources:

Garrison, D. R., and T. Anderson. 2003. *E-learning in the 21st century: A framework for research and practice.* New York: Routledge Falmer.

Vygotsky, L.S. (1978). Mind and society: The development of higher mental processes. Cambridge, MA: Harvard University Press.

Submitted by:

Kimberly Vincent-Layton, Humboldt State University, www.humboldt.edu

Reflection

Snapshot: End-of-Class Assessment

As the term unfolds, staying informed of how your students are doing in your courses presents some interesting opportunities. Without adding any new assignments, quizzes, exams or extra grading, you can stay informed by using a simple formative assessment strategy called Snapshot.
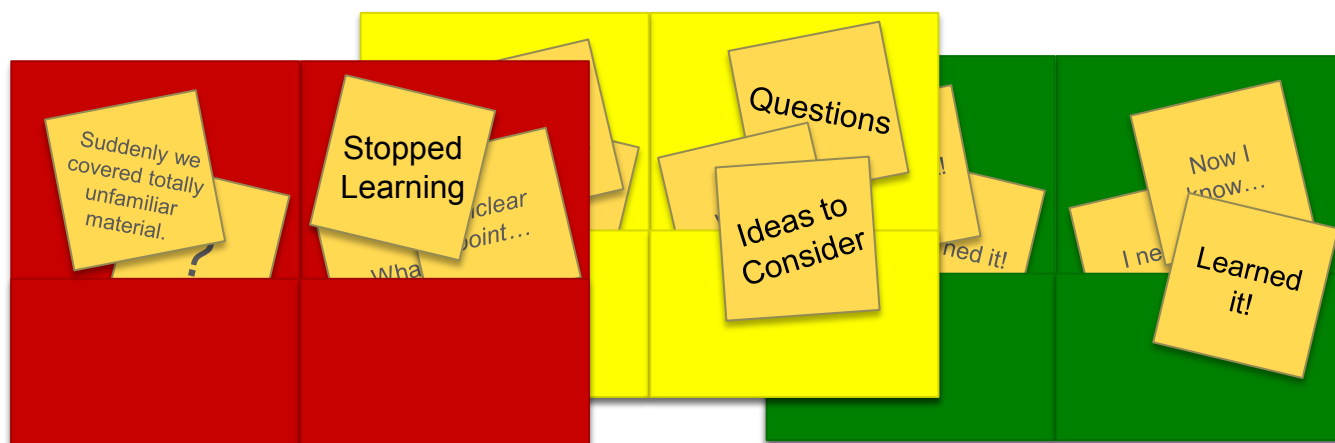
You need some simple tools: three different colored folders (you may also want a separate set for each of the classes you are teaching during the term) and post-it notes. You also need to provide about five minutes at the end of class to obtain anonymous information from your students. Place the folders closest to where students exit the room.

Pass out the post-its and ask student to anonymously respond to <u>one</u> of the following prompts:

1. Write what you learned and post it in the green folder.
2. Write what questions or ideas you considered as needing to be explored and post it in the yellow folder.
3. What stopped your learning during class? Write that on a post-it and place it in the red folder.

After class, take time to read through the students' submissions. You will get a snapshot of what was gained, what is muddy, and what was confounding to your students. This information will allow you to shape your next class session or decide to address issues and clarify ideas via e-mail, social media, class webpage, blog, or your LMS.

Adapted from [The Stoplight Method: An End-of-Lesson Assessment](#) (2014), where this method is used in a high school English class.

Submitted by:
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Progress Report Journals:
Reflecting on Course Performance

At the midterm mark, students might get an email from their institution if they aren't doing well in a course. Instructors likely have an idea of who is on the path to succeed and who is likely not going to pass their course. Assigning a Progress Report Journal to students enables more direct and effective reflection and action.

Progress Report
What is your course total?
Does this meet your expectations?
What goals do you have for the course?
Do you have any questions or feedback?

SUBMIT

Christina Moore, Writing and Rhetoric instructor at Oakland University, provided CETL this teaching tip*.

Progress Report Journals

Midterm evaluations bring a host of institutional measures to reach out to under-achieving students, such as grade reports. What might make the most difference to students' success in the course is to enable them to assess their own performance in the class, set goals, and provide questions and feedback to the instructor accordingly. I do this through a "Progress Report" online journal assignment. Since I make all grades available on Moodle, our learning management system, students can see their grades but often don't check or acknowledge that these grades are available to them (since many professors will not provide these grades automatically).

Therefore, about a third of the way through the semester, students are required to complete a Progress Report journal in which they:

- Report their overall grade in the course.
- Report their attendance record (since attendance is required in our course).
- Reflect on their performance, whether it meets their expectations.
- Provide goals for the rest of the course (often in the form of a GPA).
- Provide feedback and questions for me on the class in general.

Students take anywhere from 50 to 400 words to complete this journal, based on their needs. While we may consider ourselves open to student feedback, students often interpret this as their first opportunity to reflect on the course and ask questions. Some will provide context for their content knowledge and other school responsibilities, which is often very enlightening for me. Students generally express gratitude at the official opportunity to assess their progress in the course (even more so when they are doing poorly) because it is early enough in the semester to make progress. Even with brief feedback on the instructor's part, they see it the professor reaching out and caring about individual student.

Even in the case of students who are negative and critical, it provides an opportunity for the instructor to show understanding and explain course procedure, more effectively shutting down grumblings and increasing course satisfaction. In some cases, it also provides an opportunity to improve our courses and correct mistakes.

I implement this in a writing intensive course that is capped at 22 students, so courses with more than 50 students may want to offer this as extra credit to control review flow. Even for classes with around 50 students, this activity would not take long for the tremendous benefit it provides to the class dynamic, student success, and your end-of-the-semester evaluations.

Submitted by:

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Writing and Rhetoric

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Improve Student Learning with (almost) No Grading

Awareness and Interest

Strategies allowing students to know what they know (as well as what they don't know) and those that help students become appropriately self-confident are linked to improved student learning. Here are three strategies that may assist our students in becoming better learners while not burying us in grading.

Wrappers
For Metacognition

Self-assessment questions focus on skills students should monitor before and after completing homework.

Test Reflection

A self-reflection after an exam helps students understand why they performed as they did.

Considering
the Brain as a Muscle

Correct fixed notions of intelligence and attribute student successes of effort rather than inherent ability.

Improving Student Learning with (almost) No Grading

Have you ever had the experience where you read a journal article and had trouble summarizing the main points? Or, perhaps you and your department went to a lecture by a visiting scholar but you couldn't remember what was said during that lecture. There is often a gap between hearing or reading and making sense of the information that was seen or heard. Students struggle with these same tasks. However, research indicates that students who are interested in their task and those who have high self-efficacy tend to process information better than those who do not have high self-efficacy and interest levels (Dweck & Leggett, 1988). In addition, students that use metacognitive learning strategies (like how to take good notes during a lecture and how to read for
understanding), have higher learning outcomes than students that do not use those strategies (Nett, et al. 2012). In short, strategies allowing students to know what they know (as well as what they don't know) and those that help students become appropriately self-confident are linked to improved student learning. Here are three strategies that may assist our students in becoming better learners while not burying us in grading:

Wrappers for Metacognition – A wrapper is an activity that "wraps" a homework assignment or other learning task in or out of the classroom and cultivates students' metacognition. Wrappers require students to stop and take a moment to self-monitor. According to Marsha Lovett at Carnegie Melon University, the process is as follows:
1. Instructor creates self-assessment questions that focus on skills students should be monitoring;
2. Students answer questions just before completing their homework;
3. Complete homework as usual; and
4. After completing their homework, students answer similar self-assessment questions and draw their own conclusions.

For more, go to Lovett, M. (2008).*Teaching Metacognition*. Presentation to the Educause Learning Initiative Annual Meeting, January, 29, 2008.

Test reflection – How often have you turned back an exam, and students look at the grade, what they got wrong, and called it a day? A self-reflection after an exam helps students understand why they performed as they did. If students perform poorly, what could they do differently for the next exam? If students are forced to stop and think about the exam, they have greater potential to change their practice in the future. Typically, exam reflections may include expected grade, actual grade, hours spent studying, % of time preparing for the test reading the textbook, doing practice problems, memorizing terms, reviewing notes, etc., % of points lost from careless mistakes, not knowing facts, not understanding concepts, not being able to apply concepts, etc., and, perhaps most importantly, a description of what students would do differently in preparing for their next exam based on their responses to reflection prompts.
For more, go to Reflection #1 , Metacognition Activities, from *On the Cutting Edge*.

Considering the Brain as a Muscle – Research indicates that students who are interested in their task and those who have high self-efficacy tend to process information better (including increased use of active learning strategies) than those who do not (e.g., Dweck & Legget, 1988). Ask students, "What are your main strengths as learners? How will these strengths help you in this class?" In addition, consider espousing the belief that the brain is (metaphorically) a muscle. By "working out," one can increase the strength of this muscle. What do students struggle with? How can they improve? Be careful to correct fixed notions of intelligence and attribute student successes to effort rather than inherent ability.
For more on this concept, read: Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality, *Psychological Review, 95*, 256–273.

Resources:

Ertmer, P.A. & Newby, T.J., (1996). The expert learner: Strategic, self-regulated, and reflective. *Instructional Science, 24*, 1–24.

Lovett, M.C. (2008). *Teaching metacognition*. Paper presented at the annual EDUCAUSE meeting, Orlando, FL.

Nett, U. E., Goetz, T., Hall, N. C., & Frenzel, A. C. (2012). Metacognition and test performance: An experience sampling analysis of students' learning behavior. *Education Research International*, 1-16.

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# The Importance of Mindfulness Strategies

Jon Kabat-Zinn, Professor of Medicine Emeritus at the University of Massachusetts Medical School defines '*mindfulness*' as "paying attention in a particular way; on purpose, in the present moment, and non-judgmentally." How can instructors facilitate the practice of mindfulness with their students so that their students can better focus in class, thoughtfully attend to their work and each other, and reduce stress?

Clear a Clean Slate

Acknowledge current place of mind, and picture erasing distractions in order to be in the present place and moment.
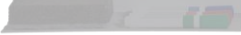
Opening Journal
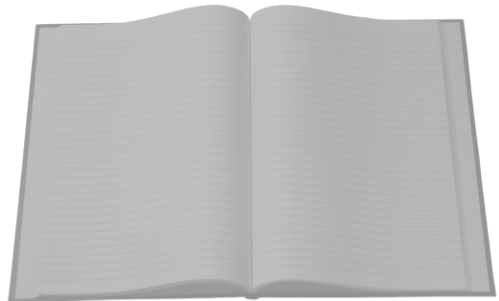
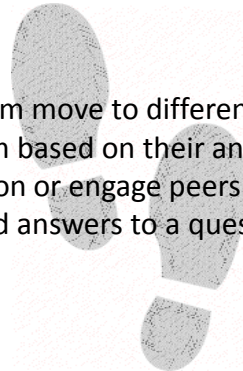Give students one minute to respond to a reflective prompt.

Assess Attention and Focus

Using any scale, such as hot-cold or engaged-asleep, ask students to assess their level and turn it up accordingly.

Get Moving

Have them move to different areas of the room based on their answer to a question or engage peers in one-word answers to a question.

The Center for Excellence in Teaching and Learning adapted this material from Anne B. Bucalos's contribution to the 2014-2015 Teaching Issues Writing Consortium.

The Importance of Mindfulness Strategies

We know the challenges to students' learning from the headlines: *"Record Level of Stress Found in College Freshmen,"* *"Student Addiction to Technology Similar to Drug Cravings,"* and *"The Myth of Multi-tasking."** College students benefit from the practice of mindfulness; it enhances their ability to pay attention and to listen nonjudgmentally, it helps to alleviate stress, it helps students become self-regulated learners, and it can improve academic performance. Jon Kabat-Zinn, Professor of Medicine Emeritus at the University of Massachusetts Medical School defines '*mindfulness*' as "paying attention in a particular way; on purpose, in the present moment, and non-judgmentally."

How can instructors facilitate the practice of mindfulness with their students so that their students can better focus in class, thoughtfully attend to their work and each other, and reduce stress? Here are some suggestions:

1. Begin class with a brief "Where Are You Now?" activity. Ask students to take 2 to 3 deep, cleansing breaths while tuning into the present moment. Ask: Are you thinking about the day ahead? Are you focusing on something that's happened recently? Are you still foggy from a late night? Notice where you are and how it feels. Now ask them to create a clean slate as if erasing a white board, and then picture their minds as a white board ready for the workings of class. Finish with a cleansing breath.

2. Ask students to journal for one minute as they enter class, responding to a prompt on the board or screen: Why am I here right now? What can I do to get the most out of this moment?

3. When taking attendance, ask students to respond orally with "Present and _____," filling in the blank. (For example, "Present and anxious," or "Present and expectant.") Have students reflect on their answer and those of their peers for one minute.

4. After 10 to 15 minutes of lecture or an exercise or activity, ask students to respond to a prompt about where their level of attention and focus is. This can be a picture of a thermometer (hot to cold), or a drawing of a continuum (engaged to asleep), or any creative measure. Ask students to mentally move themselves to "hot," or "fully engaged."

5. If the energy level in class is low, use movement to re-awaken students. Have them move to different sides or corners of the room based on their answer to a question or belief about an issue. Have them engage 2-3 different people in one-word answers to a question that relates to the class content.

6. When using PowerPoint or Prezi presentations, insert a slide that has a unique picture or phrase that will re-focus students' attention. Ask several students to share their reactions.

7. When taking notes, encourage students to write a word, acronym, or phrase (or draw a symbol) at the top of each page as a reminder of attention and intention: "Focus" or a drawing of an eye; "Think" or a light bulb.

Resources:

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Hough, A. (2011). Student Addiction to Technology Similar to Drug Cravings. *The Telegraph*, April 8, 2011 available at: http://www.telegraph.co.uk/technology/news/8436831/Student-addiction-to-technology-similar-to-drug-cravings-study-finds.html

Kabat-Zinn, J. (2012). Mindfulness for Beginners – reclaiming the present moment and your life. Boulder, CO: Sounds True.

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Making Metacognition Transparent
Through a "Gallery Walk"

We work in a world of quick transitions and immediate gratification, and we seldom take the time to stop, look inward, and take stock. If we do, we often don't use that "stock" to make changes or plans for the future. This is where *metacognition* plays a key role. Simply put, metacognition is thinking about thinking. It includes:

awareness	monitoring	adaptation

Have students use sticky notes to reflect on their success and failures.

Successes

Think about a time when…

…a writing assignment was successful. What did you do?

…you learned a lot. What did you do?

…you did well on a test. How did you prepare?

Failures

Think about a time when…

…you failed a test. How did you prepare?

…you just didn't get it. What were you doing at that moment?

…a writing assignment failed. How did you work through the assignment?

Based on students' answer patterns, what will they learn about metacognition, and how can they plan differently for the next assignment?

The "Gallery Walk" as a Means to Making Metacognition Transparent

You turn a test back to your students. They look at their papers, and you span the room. Your students' visages are telling – some look shocked, others proud, and still others are hurt or even bored. Perhaps one or two students ask to meet with you after class to "talk about their grade" or ask for the dreaded extra credit assignment. But, how often do they ask themselves how their studying approach (other than perhaps amount of time spent studying) affected their performance? Do they analyze their feedback to see if there were particular content areas they struggled with? Particular test item types?

In other words, do your students ever stop and take stock, whether of a test, an in-class activity, an assignment, or a conversation?

We work in a world of quick transitions and immediate gratification, and we seldom take the time to stop, look inward, and take stock. If we do, we often don't use that "stock" to make changes or plans for the future. This is where metacognition plays a key role. Simply put, metacognition is thinking about thinking. It includes:

- becoming aware of how we learn (cognitive awareness),
- monitoring our learning strategies and evaluating how well those learning strategies work (self-regulation), and
- adapting our learning strategies when and if needed (Flavell, 1979).

In general, students who use metacognitive strategies (i.e., plans or techniques used to help students become more aware of what and how they know) tend to have higher performance than students who do not use metacognitive strategies (e.g., Ertmer & Newby, 1996; Lovett, 2008; Nett, Goetz, Hall, & Frenzel, 2012). One way to helps students take stock and learn about metacognitive strategies is through a variation on the gallery walk, wherein you ask students to reflect on both their academic successes and failures.

First, introduce the concept of metacognition (including awareness, monitoring, and adaptation), and ask students to think about their academic successes and failures. Ask students to write responses to the following prompts on sticky notes:

Think about a time when...

- you learned a lot. What did you do?
- a writing assignment was particularly successful. What did you do to make it successful?
- you performed particularly well on a test. How did you prepare?
- you just didn't "get it." What were you doing at that moment?

- o a writing assignment failed. How did you work through the assignment?
- o you failed a test. How did you prepare?

Students place their responses to each prompt on separate charts (one chart per prompt) placed around the room. You (the instructor) facilitate a whole group conversation, walking from chart to chart (in essence, you're taking a "gallery walk" with each chart a work of art). What are common characteristics across students' successes? Their failures? What were the students doing in each of those situations? How are the characteristics related to awareness, monitoring, and adaptation? Through this process, students see a pattern in their collective academic successes and struggles.

Then, ask students, "Based on the gallery walk and what we've learned about metacognition, how will you plan differently for your next assignment/project/exam?" This final question could be addressed through a minute paper, a take-home assignment, or another chart in the gallery walk.

Resources:
Ertmer, P.A. & Newby, T.J., (1996). The expert learner: Strategic, self-regulated, and reflective. Instructional Science, 24, 1–24.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. American Psychologist, 34, 906-911.

Lovett, M.C. (2008). Teaching metacognition. Paper presented at the annual EDUCAUSE meeting, Orlando, FL.

Nett, U. E., Goetz, T., Hall, N. C., & Frenzel, A. C. (2012). Metacognition and test performance: An experience sampling analysis of students' learning behavior. Education Research International, 1-16.

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Techniques to Help Students Think About Their Learning

An essential lifelong skill for students is to think about their learning, or be metacognitive about it. Although metacognition ties directly to student success, it is often not taught, and it is a skill that many college students lack. Structure courses to help students focus on and be more aware of their own learning.

ConcepTests
during class

What came first?

a. chicken
b. egg
c. neither

During a break in lecture, students individually answer multiple-choice questions (anonymously), then debate the answer with their peers, and they vote again.

Online Quizzes
after class

What did I learn in class today?

Multiple-choice quizzes test the students on concepts they learned in class, but are completed by students on their own time outside of class. Allowing multiple attempts emphasizes mastery over grading.

Exam Wrappers
after an exam

This worked well.

What was I thinking?

After each exam, students reflect on how they studied as well as how they could have studied smarter, allowing them to think about what they will change or keep the same for the next exam.

Techniques to Help Students Think About Their Learning

An essential lifelong skill for students is to think about their learning, or be metacognitive about it. Although metacognition ties directly to student success, it is often not taught, and it is a skill that many college students lack. One of my goals is to purposefully structure my courses to help students focus on and be more aware of their own learning.

The three strategies I use most often to foster metacognition are:

1. ConcepTests (or clicker questions)—These multiple-choice questions are asked during a break in lecture, students individually answer them (anonymously), they debate the answer with their peers, and they vote again. These questions allow students to find out how well they understand concepts as they are taught in class.

2. Online Quizzes—These multiple-choice quizzes test the students on concepts they learned in class, but are completed by students on their own time outside of class. Students can retake them up to three times, with a different selection of questions each time. Students can use them as a way to self-test if they understand the concepts, which is useful both immediately after class as well as a way to study for the exam.

3. Exam Wrappers— I ask students after each exam to reflect on how they studied as well as how they could have studied smarter. This technique allows students to think about how their studying was effective and how they might want to study differently to be more successful on the next exam. I also give students time to give feedback to each other, so they can learn from others in the class as well.

I explain to the students that these techniques give them immediate feedback on how well they understand concepts, help them to realize that they are in charge of their learning, and determine what topics they need to spend more time on. Another strength of these methods is that they are easy for the instructor to implement. After the initial set up, none of these methods takes much time, and there is no manual grading.

A challenge to these techniques is the initial time commitment, which varies. Good ConcepTest questions are difficult to write, but there are some websites where instructors share questions, and you can reuse them in following semesters. Setting up and writing good online quizzes also takes time initially, but they can be reused (and some quiz questions can be used again on exams).

asked for the quizzes, even though they require more work from the student. Although some students complained about the time involved, they also saw how valuable the quizzes were to their learning. Finally, as measured by the Motivated Strategies for Learning Questionnaire survey instrument, students in my classes do not experience a decline in motivation and attitudes during the semester, as is commonly seen in other introductory classes, which is significant because research is increasingly showing the importance of student affective domain (motivation and attitudes) on their learning.

Resources:
Pintrich, R. R., & DeGroot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance, Journal of Educational Psychology, 82, 33-40.

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A Penny for Your Thoughts
Demonstrating the Importance of Meaning

Students often read material once and expect it to be filed away in their memory. This demonstration shows how significant meaning and context are to remembering material, and that simply reading won't guarantee learning.

1. Instruct students to draw two circles on a notecard.
2. Give them two minutes to draw both sides of a penny, the left circle "heads" and the right "tails."
3. The objective is not for artistic ability, but for accuracy in replicating the information.

Even seeing something as simple as a penny one thousand times will not enable them to recreate it from memory perfectly.
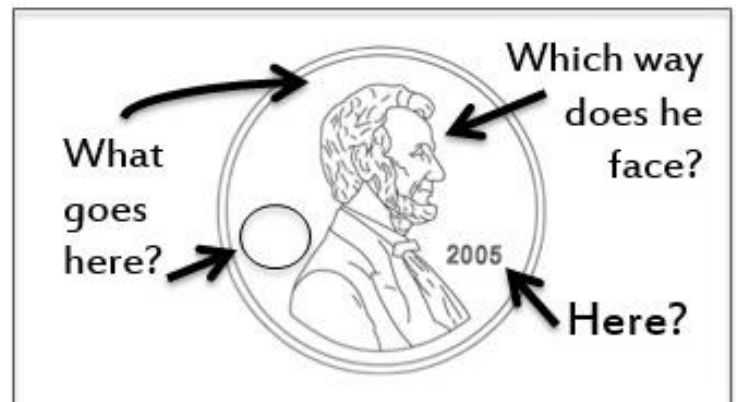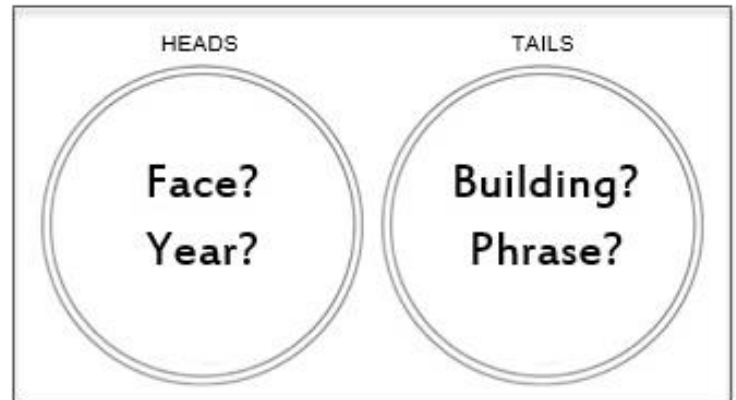
If they can't do this, how will they remember material from the class?

By making the material matter.

Connecting it to other topics, putting it in context, and looking at it from different angles.

A Penny for Your Thoughts: Demonstrating the Importance of Meaning

Students often read material once and expect it to be filed away in their memory. This is a demonstration that shows how significant meaning and context are to remembering material, and that simply reading it won't guarantee the student is learning it.

Give the students a blank 3" x 5" card and instruct them to draw two circles on one side of the card. The circles should be quite large, taking up most of the card (an example card is useful). Have them put away their laptops, phones...and pocket change.

Using the two circles, now instruct the students that they will have one to two minutes to draw both sides of a penny. Tell them the left circle is to be "heads" and then imagine that they flip the penny over horizontally and the circle on the right is "tails." The objective is not for artistic ability, but for accuracy in replicating the information.

Don't make the mistake of providing examples that give away information, such as "which side is the date on?" or "which side it the head facing, right or left?" Give them time to do their best and then when time is up have them switch with their neighbor. If you're daring, attempt this yourself before looking at the answers below.

It's easiest to project the image of both sides of a penny, annotated with the criteria we will be looking for. There are essentially 10 items they should have been able to correctly identify:

"Heads" side
1) A profile of a man
2) The profile facing to the right
3) "Liberty" to the left of the profile
4) A date to the right of the profile
5) "In God We Trust" above the profile
6) A letter below the date to indicate the mint mark

"Tails" side
 (Revised in 2010 but effectively changing the Lincoln memorial to a shield will suffice)

7) Lincoln memorial in the center
8) "One Cent" below the monument
9) "United States of America" is at the very top
10) "E Pluribus Unum" is below "United States of America," but above the monument

Bonus point
11) Noting that if the penny is flipped horizontally the "tails" side will be upside down

Ask the class if anyone is holding a "10," in my experience (with a class of nearly 90) there wasn't a single perfect card. The highest might be 7 or 8. The students are not currently holding their own card, so hopefully they won't be anxious to respond.

Finally, it's important to present the underlying meaning of this activity. If a student is 20 years old, they may have been handling money for ten years. If the handled money once per week, and each time there was two pennies, this is over a thousand times they will have seen a penny.

Surely it's more, we see them on the ground, in cup holders, they're ubiquitous. But even if we are very conservative in the estimate, seeing something as simple as a penny one thousand times did not enable them to recreate it from memory. If they can't do this, how will they ever remember material from the class? By making the material matter. Connecting it to other topics, putting it in context, and looking at it from different angles.

Reference:
This demonstration was created for the orientation of first year pharmacy students within a study skills prep session. Inspiration for this exercise came from *Why Don't Students Like School* by Daniel T. Willingham. A figure in the book presents the "heads" side of a penny with twenty different variations. It then asks the reader to pick out the correct penny.

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How Students Can Learn from Their Mistakes

Rather than reviewing exams in class and providing students with the correct answer, allowing students to earn extra points on their grade by making "corrections" will help to ensure that they not only understand why their answer was incorrect but also better understand the concepts.

Testing is primarily used for assessment purposes. It is a way for a teacher to determine if students have mastered the required material. After exams are graded they are often returned to the students with the intention that students will review their incorrect answers and understand their errors. In reality, most students just look at their grade and file the exam away. They never follow through to understand what they did wrong or to learn the concept they missed.

When making corrections, not only must the student show the correct response but also provide a detailed explanation as to how they derived their answer. This includes all steps, calculations and explanations of any concepts, and for exams in multiple choice formats, an explanation as to why all of the other choices are incorrect. By assigning a point value to this exercise, students will be more likely to engage in this activity and complete the assignment.

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