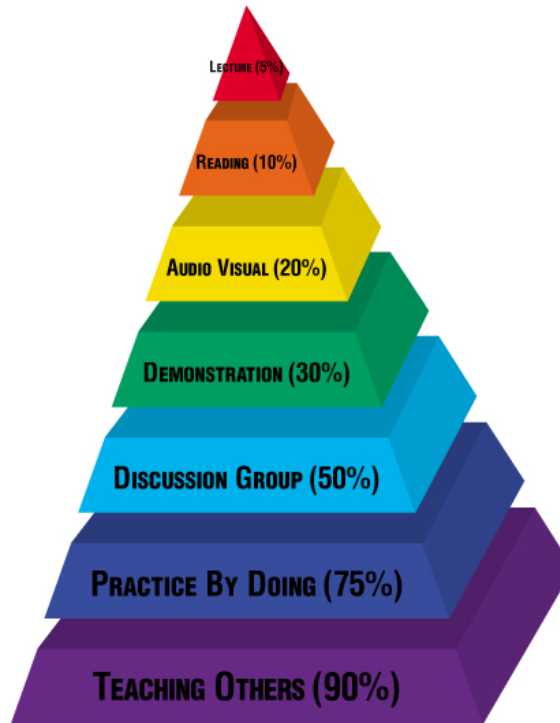




Channel Islands

CALIFORNIA STATE UNIVERSITY

High-Impact Practices For the Classroom ISLAS Academy



“As college faculty, we can have a lifelong effect on what our students remember, and consequently on what they will think and do. Or we can have a minimal effect. Most of the difference depends on how we design and direct learning activities.” (Halpern & Hakel, 2003)

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THE CLASSROOM AS A COMMUNITY/ FACULTY-STUDENT INTERACTIONS

- Encourage students to use names when they're engaged in class activities, large group discussions, etc; talk about why knowing names matters"
- "Notice students. Talk about their promise for graduate school, specific careers."
- "Create opportunities for students to have to rely on each other (e.g., a reading reflection posted, must post your own and make comments on others' reflections)"
- "Create class norms together. Ask students what they need from me in order to be able to take risks and enjoy learning in this class (process norms); ask students what they need from themselves and from each other in order to get the most out of the course (community norms)" "Offer to meet student in places where there is coffee/food. Be portable, go into their turf. Search for ways to help students claim CI space as theirs (which first-generation college students typically do not do; they often do not feel connected or that they belong)"
- "Talk on the first day of class about what office hours are and what they are for. Not a remediation for being 'in trouble,' but a help to instructor to learn who students are and to help them to be successful."
- "Talk to students about our needs as faculty. We teach better when we know the people we're teaching. Office hours help meet our needs, too. Opportunity to talk about teaching/learning as a two-way relationship. Students' perception of profs inaccessibility has to be explicitly broken through."
- "Redefine 'office hours.' Start calling them 'student hours' on your syllabus. It's more explicit, more inviting. (In the military "office hour" is a form of discipline; invokes principal's office.)

ACTIVE LEARNING - INTRODUCTIONS

Icebreakers/Energizers: This technique is used to introduce participants to each other or to help them to relax, wake up, or recapture their wandering interest. As its name implies, the icebreaker warms the learning environment to the point that the 'ice' keeping participants from interacting with each other is broken up.

Process - This technique is usually short and has no specific form. It is how it is used, that makes it an icebreaker. A joke, short game, or physical activity of some sort can all be icebreakers. For example, to begin a class with new participants you might randomly pair off participants and have them work in pairs to find out as much as possible about each other in five minutes. Each participant then introduces his/her partner to the rest of the group. Other examples of icebreakers include: having participants draw a picture which describes something about themselves and then explaining it to the group; solving a puzzle together; or taking a "blind walk in which one person (whose eyes are closed) is led by a partner's verbal instructions.

Advantages - An icebreaker/energizer actively involves all participants in an active role. It should be fun and create an initial bond between facilitator and participants.

Three-Step Interview: Common as an ice breaker or a team-building exercise, this structure, developed by Kagan (1989), also helps students reinforce and internalize important concept-related information based on lectures or textbook material. The instructor usually poses the interview questions, focused on content material and having no right or wrong solutions. In a Three-Step Interview, one student interviews another within specified time limits (Step 1). The two then reverse roles and conduct the interview again (Step 2). Two pairs combine to form a foursome, and the students introduce to the rest of the group the ideas posed by their partners (Step 3). An extra question can be added for pairs working more rapidly than others, an "extension" or "sponge" activity recommended to reduce off-task behaviors and to allow fast-moving pairs or groups to tackle more challenging problems.

THOUGHTS FROM CI FACULTY

- “Don’t just learn students’ names; use their names during class. Not only builds community but helps students feel accountable for their performance.”
- “On first day, have students write their contact information on a piece of paper, walk across the room and hand it to someone; that then becomes the person they can contact to get notes from a missed class, practice a speech with, etc.”
- “For the first few days of the semester, have students introduce each other; interview each other about favorite movies, interests, etc. Include myself as one who is being interviewed and introduced. Make sure students get to know me, too, and let them see me taking the risks of being seen and known along with them. Communicate the message: we’re all students in here, we’re all teachers.”

TECHY IDEAS

- Use video to introduce yourself and send students the link to it before the first class session
- Have the students create a video and watch each other’s (they can post a video on YouTube and post on a wiki in CILearn).
- Photos of students to learn names (consider using Attendance2 App)
- Use a template in Word for your syllabus to break out of the “Times New Roman” box

ACTIVE LEARNING - COOPERATIVE ACTIVITIES

For more complex projects, where many heads are better than one or two, you may want to have students work in groups of three or more. As the term "cooperative learning" suggests, students working in groups will help each other to learn. Generally, it is better to form heterogeneous groups (with regard to gender, ethnicity, and academic performance), particularly when the groups will be working together over time or on complex projects; however, some of these techniques work well with spontaneously formed groups. Cooperative groups encourage discussion of problem solving techniques ("Should we try this?", etc.), and avoid the embarrassment of students who have not yet mastered all of the skills required. Cooperative learning is to be distinguished from another now well-defined term of art, "collaborative learning", which refers to those classroom strategies which have the instructor and the students placed on an equal footing working together in, for example, designing assignments, choosing texts, and presenting material to the class.

QUICK REFERENCE LIST

- | | | | |
|----------------------|------------------------|---------------------------------|---------------------------------------|
| ▪ Brainstorming | ▪ Drama | ▪ Peer Teaching | ▪ Simulations |
| ▪ Buzz Sessions | ▪ Field Trips | ▪ Pre-Theoretic Intuitions Quiz | ▪ Summary of Another Student’s Answer |
| ▪ Case Studies | ▪ Fish Bowl | ▪ Problem-Based Learning | ▪ Team-Based Learning |
| ▪ Critical Incident | ▪ Focused Listing | ▪ Puzzles/Paradoxes | ▪ Text Rendering |
| ▪ Concept Maps | ▪ Games | ▪ Question and Answer in Pairs | ▪ Think-Pair-Share |
| ▪ Corners | ▪ Generating Questions | ▪ Reciprocal Questions | ▪ Two Column Method |
| ▪ Creative Art Forms | ▪ Jigsaw Technique | ▪ Role-Plays | ▪ Value Line |
| ▪ Debates | ▪ The Kitchen Concept | ▪ Rotating Chair Discussions | ▪ Write-Pair-Share |
| ▪ Demonstration | ▪ Panel Discussions | ▪ Send/Pass-a-Problem | |

Brainstorming: This technique encourages active and imaginative input from participants while tapping (and assessing) their knowledge and expertise. The facilitator’s role is to encourage all participants to say the first thing that comes to their minds and to keep ideas flowing quickly. Brainstorming is used to help focus or clarify activities, or generate information that can help begin a topic.

Process - The facilitator asks a question on a topic to be investigated. The participants are asked to draw upon personal experience and opinion and to respond with as many ideas as possible. As participants put forward their ideas, each idea is recorded on the board without rejecting any. Thereafter, the group analyzes the information collected.

Advantages - It promotes creativity in finding solutions to problems. It is particularly effective in opening sessions to establish goals, objectives and norms for participants.

Buzz Session: This is a special type of small group activity that is used when participants need to discuss a topic, express opinions and come to some sort of consensus.

Process - As with any small group, the main activity and/or questions are introduced in a large group. The facilitator then divides the participants into smaller groups of 3 or 4 each. Each participant then shares his or her view in the small group and it is recorded. Participants' views are then consolidated within small groups and shared with the large group.

Advantages - It gives each person has a chance to "talk through" a topic. Buzz sessions allow participants to become more actively involved in describing their opinions in small groups before bringing those ideas to the larger group. They help to build self-confidence.

Case Study: This technique encourages participants to analyze situations they might encounter and determine how they would respond. A case study is basically a story written to show a detailed description of an event followed by questions for participants to discuss. It can range from a paragraph to several pages in length. Case studies that pose problems, identify context and challenges and provide enough detail to prompt discussion and possible solutions promote deeper learning and analysis. The case study should be designed in such a way that it is relevant and interesting to participants, and there is enough time set aside to read, think and discuss.

Process - The facilitator hands out a case study that describes a relevant situation or problem to be addressed. Participants read the case study. Participants are either broken up into small groups or may stay in the large group to discuss the case. The instructor facilitates questioning and identifying (and comparing) alternative solutions.

Advantages - It encourages participants to explore ideas, and to identify alternative behaviours and solutions to situations and problems they might encounter.

A **Critical Incident:** is a variation on a case study. It is short (seldom longer than a couple of paragraphs), describes a critical situation, and ends with a single question usually addressing what should be done to solve the problem. As it is short and problem-oriented, it need not always be handed to participants in written form.

Concept Maps (/Graphic Organizers): Also referred to as *Idea Webs*, this technique involves creating a map or web that provides a visual organization of a concept, linking it to associated terms and ideas situated within participants' existing knowledge base. This can be used to introduce or deepen a critical idea or concept. Mirroring and reinforcing neural networks and memory structures, it encourages students to build, articulate and recognize their personal relationship to and understanding of key concepts.

Process - The facilitator starts with a central concept or idea written and circled in the middle of the board and invites participants/learners to speak about the concept, what they know about it and/or what it makes them think of (depending on the topic/discipline, focus or purpose). With each suggestion, the facilitator writes the key word(s) that capture it nearest to the related word (s), circles it and draws line(s) between related word(s). This process is continued until a web of related ideas is visible to all. Once learned, this group can be used with small groups and individuals to help introduce or consolidate important concepts.

Advantages – Participants' active involvement in creating the concept map increases interest in a concept while embedding their understanding of it and its relationship to other topics and ideas, ultimately strengthening their ability to recall it.

Online: See interactive software for developing concept maps and other graphic organizers at:
<http://www.graphic.org/>

Corners: The leader of the day places content (or flipchart with question) in each corner of the room. Groups of 3-6 people move from corner to corner and discuss answer(s) to each posed question. The groups develop a consensus and write their answer directly on each flipchart. When the flipchart has an answer already written by a previous group, the next group revises/expands/ illustrates that response with additional information, if possible. Different colored markers can be used for each group to see what each group wrote for each question.

Creative Art Forms (Pictures, Song and Dance): Many instructional activities can benefit from incorporating a creative component to enhance participants' expression of ideas. Drawing pictures (as a group or individuals) encourages participants to express their opinions and feelings symbolically. Song and dance as a vital part of any culture and has long been an entertaining learning tool. Words from songs carry messages that can stay with learners for years, musical patterns and rhythms are likewise retained and dances offer kinaesthetic activity that engage other learning centers. All can add an element of fun and action to any class and spark creativity in learners. An instructor can easily encourage learners to create drawings, songs and dances that capture a message, key sentence, or process central to the topic at hand.

Process - Facilitator identifies a focus for the drawing, song and/or dance and breaks participants into groups, telling them how much time they have to complete the activity. Facilitator explains that the quality or technical expertise of the product is not important, that it is the ideas that are contained that are the goal. As long as participants can explain what they have drawn/performed/produced to the group, it need not even be recognizable. They should think of the product as creative shorthand that records their thoughts, understanding and message. Facilitator goes around to groups encouraging them. Facilitator calls participants back together and asks them to share and explain their products to the large group. Facilitator keeps comments and discussions light-hearted and should downplay negative criticism.

Advantages - If this is done well, it helps facilitator/participants to overcome their aversion to drawing/performing. This can be a light-hearted and enjoyable activity that draws on multiple learning modes (cognitive, affective and kinaesthetic) and often connects particularly with the affective (feeling) dimensions of participant response. Research has shown that production and performance of such creative art forms helps to solidify concepts and that participants retain memories of the activities and ideas much longer than traditional instructional transmission strategies.

[Note: there is usually hesitation in participating in this activity for the first time. Placing participants in groups allows them to choose lead artists to help render their ideas, or to work together to create them. If facilitators are careful to encourage and help participants get over their initial hesitation, this activity can be engaging, rewarding and memorable – tapping and enhancing learning styles.]

Debates: Actually a variation of #27, formal debates provide an efficient structure for class presentations when the subject matter easily divides into opposing views or 'Pro'/'Con' considerations. Students are assigned to debate teams, given a position to defend, and then asked to present arguments in support of their position on the presentation day. The opposing team should be given an opportunity to rebut the argument(s) and, time permitting, the original presenters asked to respond to the rebuttal. This format is particularly useful in developing argumentation skills (in addition to teaching content).

Demonstration: This technique is used to allow participants to see how something should be done. A demonstration brings to life some information that has been presented in a lecture, discussion or explanation or serves as an interesting introductory activity. In general, a lecture or discussion of how to do something is seldom as effective as a direct demonstration of how to do it, which participants can both see and try for themselves.

Process - The facilitator should explain the purpose of the demonstration. Facilitator demonstrates the procedures or new behaviour. Participants are encouraged to ask questions and engage in discussion. The participants practice what has been demonstrated.

Advantages – Participants' active involvement in trying what the facilitator has demonstrated shows if they have correctly understood and strengthens memory retention of this information.

Drama: When people come together and act out parts, they are often able to say more than they might in a normal discussion. Drama can be an interesting, entertaining and, most of all, effective way to get people to discuss and solve

problems. Since dramas (plays or skits) identify the specific ideas/messages to be presented by actors (i.e. they have scripts), they are often best used when key messages or complex information need to be shared.

Process - Once a problem has been identified, participants can come together, write and act out a play for either the class or the community. If focused on problem-posing, the drama should present the main ingredients of the problem, but no solution. After (or even during) the play, they can ask the audience (participants watching) for advice on what to do. Following the play, actors and audience alike discuss the problem and come up with ideas for action they can take to solve it. Problems might be as simple and local as people coming late, or talking/behaviour that disrupts the entire class; or as complicated as the different issues that impact complex issues such as health and development.

Advantages – Generally, all facilitators have to do is to encourage a small group of participants to try this technique with the whole class. It is usually considered such fun that, given the opportunity and a bit of encouragement, participants will begin to create more. Facilitators may even consider using this as a way to have participants help to present new material from a lesson or summarize and consolidate information and key points in a unit. Those creating the dramas work and connect with the concepts at a deeper level and those who participate and observe also have a richer and more memorable learning experience.

Field Trips: This technique allows participants to see how something is done first- hand. The facilitator finds a place outside of class in which participants can see, in real life, something that has been discussed in class. Field trips should be well planned and designed to help stimulate the interest while expanding the applied knowledge base of the participants.

Process - Participants should be briefed on the field trip in advance: location, time and purpose of the trip. The participants and the facilitator should make up a list of questions or observations that participants can use as a guide during the field trip. Following the field trip, participants should discuss and analyze what they have seen.

Advantages - Field trips expose participants to how information discussed in classes can be applied in real life.

Fish Bowl: This technique provides a physical structure (generally circular or semi-circular seating arrangement) that allows participants on the 'outside' to see something being done on the 'inside'. Participants may observe a role-play or an actual situation such as a discussion or a planning meeting.

Process – Facilitator helps break participants into two or more groups. A small group performs some action or activity in the center of a larger group. The outer group of participants is asked to observe and analyze the interactions of the inner group. The outer group may also be provided with one or more observation guides to direct their attention towards important issues, points or dynamics that may emerge.

Advantages – As with a fish placed in a bowl of water, participants can see what is happening and discuss what they see. A fish bowl focuses the observation and feedback of the outer group/observers on the information supplied by the inner group/actors.

Focused Listing: These listings are great follow ups to short presentations (whether via video or in person speaker) during which participants are asked to absorb information that is new and that is vital to the discussion to follow. For example, with an early American Literature session focused listing might start with asking: "What is literature?" Or "Based on your reading of Thomas Jefferson's letter about "the novel," what phrases describe the founders' fears about young women and men reading novels?" Then, as a full group, take five to ten minutes to for students to speak and record on a flip chart/white board as many associations as possible for this prompt. The listing works well to introduce a topic, as an exercise joining/synthesizing two sets of information (lecture plus follow up reading, two lectures), and as something to return to as a wrap up so that participants can compare before/after thinking – and, always, it will give you a chance to see if/where participants pick up on topics/ideas as you had anticipated, to gather a sense of interests/insights of the specific group before you, to establish a base from which you can begin to extend concepts of the workshop to participants' particular concerns.

Games: Games are structured activities that have: 1) a certain number of players who are 2) working in a special situation 3) to accomplish a task 4) according to certain rules.

Process - Facilitators can use or modify existing games that meet their needs or invent new games that help participants to learn information or practice skills learned, as way of review. If you do decide to develop a game, make sure that it has all of the components described above. As you develop a game, here are some tips to remember: a) To be good and useful a game must be well thought out, so set aside some time to develop and test the game; b) If you decide to award points, do so for right answers, but avoid taking away points for wrong answers as this can discourage learners from participating; c) Try to involve participants in developing the games, (e.g., let them come up with the questions); and d) Keep participants working in teams so that quick learners play alongside slower learners and no single individual ever wins. Cooperative games can be more interesting, engaging and supportive of learning for all than highly competitive games.

Advantages - Games are generally fun and effective ways for participants to learn new skills or practice skills they have recently learned. Good games can be challenging and effective ways of involving even the most hesitant of learners.

Online: Check out HotPotatoes to create online matching games, crossword puzzles, fill-in-the-blanks for self-testing and quick reviews at: www.halfbakedsoftware.com/ or <http://hotpot.uvic.ca/>

Generating Questions: Have students/participants create five types of questions from a reading assignment, with each question moving to a "higher" level of thinking. Begin with a question asking for an important fact stated directly in a text. Then develop a question that revolves around two relationships, ideas, characters or events addressed in the reading. At the next level ask students to write questions requiring answers built from inference – an analysis drawn from two pieces of information close together in a text or from relationships among many pieces of information spread throughout the assigned reading(s). Students can create higher level questions based on patterns they perceive in seemingly unrelated pieces of information – a symbol, a theme that recurs. The last of this question-developing thread might ask students to create a question based on the reading and everyday life, issues, contexts. This can be a great activity for those days when students have been assigned short but intense readings that they will be expected to discuss in detail in class. Have students write the five questions (noting page numbers when they refer to textual passages or ideas) on a note card, which can be passed around, used as a guide during discussion, and/or turned in at the end of class.

Jigsaw Technique: This technique is used to help participants to master different pieces of information that, when put together, cover a complete topic.

Process - To do this, the large group is divided into smaller groups in groups' focus is on learning a part of the picture, the second groups' focus: on piecing this information together. In the first part of the jigsaw, each smaller group is assigned to learn a different aspect of the chosen topic. Each group spends time working together until every member has mastered the topic assigned to her/his group well enough to teach it to others.

When these first groups are finished, a second set of groups is formed ensuring that they contain at least one representative from each of the original groups. In this second part of the jigsaw, each "expert" member (representatives from the first group), shares his/her topic information. By the end of part 2 of the jigsaw, each group has had a chance to learn all the "pieces" of information and develop an understanding of the whole topic. The jigsaw ends with the entire large group reforming briefly to discuss, field questions and reflect on the process.

Sample distribution for 20 participants

| All Cards | Jigsaw 1 – by number | Jigsaw 2 – by letter |
|--|---|---|
| 1A 1B 1C 1D 1E 2A 2B 2C 2D 2E 3A 3B 3C 3D 3E 4A 4B 4C 4D 4E | 4 groups of 5 1: 1A 1B 1C 1D 1E 2: 2A 2B 2C 2D 2E 3: 3A 3B 3C 3D 3E 4: 4A 4B 4C 4D 4E | 5 groups of 4 A: 1A 2A 3A 4A B: 1B 2B 3B 4B C: 1C 2C 3C 4C D: 1D 2D 3D 4D E: 1E 2E 3E 4E |

| | | |
|--|--|--|
| | | |
|--|--|--|

Note: Adding 3 more for 23, distribute additional cards as follows: (1A, 2B, 3C)

Advantages - The jigsaw technique provides an opportunity for people to learn a topic and then immediately afterwards to teach it to others. This technique encourages cooperation rather than competition. It is an effective way to give individuals presentation experience and to bolster participant confidence in their own knowledge and skills.

The Kitchen Concept: This technique was given this title as it was used and developed in Nigeria. It involves using local community resource people to share knowledge with learners about something with which they have actual experience. It is a variation on the field trip or guest speakers, but with a particularly effective twist.

Process - For example, if learners in a literacy class are studying about keeping livestock, it may actually be better if they hear from someone in their own community who has been successful at it. An extension agent may still come and follow up with more information, but the neighbour who actually does what is being discussed can make the biggest impression on learners since he/she can show them what is truly possible. Moreover, learners can do more than 'talk' about a topic; they can possibly go on a field trip to visit the person and actually see how things should be done. In some cases, people in the literacy class may have skills they can share with other learners.

Advantages – It is often said that we should appreciate and use the knowledge and experience of adult learners. The kitchen concept puts this idea into practice.

Panel Discussions: This technique allows participants to gather information on several new topics at a time from visiting 'experts' or 'authorities' on the topics. It encourages critical and informed questioning from participants and interaction between guest speakers and participants in exploring a given topic.

Process - 'Experts' or 'authorities' are identified and invited in front of the group. The facilitator (or pre-designated participant) acts as moderator (facilitator) of the panel discussion by asking initial basic questions of panel members and/or encouraging participants to ask questions of panel members.

Advantages - This can be a good opportunity to invite guest speakers (up to 3 or 4 at one time) into the classroom. It offers participants a different format for information transfer and a change from the facilitators as the focus of attention. Also, it can give participants contact references for future work in the field. If you design your sessions in such a way that the participants become the 'resident experts' on a given topic, then they can experience a distinct feeling of involvement and accomplishment on the topic.

Peer Teaching: This technique allows participants with expertise in a certain field to help in the instructional process, and gives participants a chance for hands-on instructional of their peers.

Process - Facilitator solicits participant assistance in instructional, asks for areas of expertise, and/or assigns participants topics to be researched, prepared and presented. Alternately, a participant(s) might work together with the facilitator to conduct a instructional session. During the presentation, other participants are encouraged to participate actively as in any other session, respecting their fellow participant as the 'facilitator' and lead learning guide during that session.

Advantages - Peer instructional can help participants to network for future cooperation, collaboration and support. It takes the role of "expert" away from the facilitator and gives the authority and control of learning to the participants. [Note: though rewarding, the preparation for peer-instructional activities can be especially time consuming.]

The Pre-Theoretic Intuitions Quiz - Students often dutifully record everything the instructor says during a lecture and then ask at the end of the day or the course "what use is any of this?", or "what good will philosophy [organic chemistry, etc.] do for us?". To avoid such questions, and to get students interested in a topic before lectures begin, an instructor can give a quiz aimed at getting students to both identify and to assess their own views. An example of this is a long "True or False" questionnaire designed to start students thinking about moral theory (to be administered on the first or second day of an introductory ethics course), which includes statements such as "There are really no correct answers to moral questions" and "Whatever a society holds to be morally right is in fact morally right". After students have responded to the questions individually, have them compare answers in pairs or small groups and discuss

the ones on which they disagree. This technique may also be used to assess student knowledge of the subject matter in a pre-/post-lecture comparison. The well-known "Force Concept Inventory" developed by Hestenes to measure understanding of force and motion is another good example of this.

Problem-Based Learning: Present a problem to the class/group. The problem needs to be based on an authentic situation that the participants could actually encounter. Partners or small groups must apply the presented information to address the problem. They may address the problem deductively (determine what is causing the problem) or inductively (analyze the issues and identify the problem).

Puzzles/Paradoxes - One of the most useful means of ferreting out students' intuitions on a given topic is to present them with a paradox or a puzzle involving the concept(s) at issue, and to have them struggle towards a solution. By forcing the students to "work it out" without some authority's solution, you increase the likelihood that they will be able to critically assess theories when they are presented later. For example, students in a course on theories of truth might be asked to assess the infamous "Liar Paradox" (with instances such as 'This sentence is false'), and to suggest ways in which such paradoxes can be avoided. Introductory logic students might be presented with complex logic puzzles as a way of motivating truth tables, and so forth. In scientific fields you can present experimental data which seems to contradict parts of the theory just presented or use examples which seem to have features which support two opposing theories.

Question and Answer Pairs: The objective here is to engage individuals with readings and then to pair them to answer particular questions. This helps to deepen the level of analysis of presentations/readings, and helps engage participants in explaining new concepts, as well as considering how/where to apply the concepts to their own thinking/work setting. Approximate time: five to ten minutes. The procedure: 1) participants respond to a presentation (video, panel, readings) and compose one or two questions about it; they may do this in class or you may ask students to bring questions with them; 2) the participants pair up; A asks a prepared question and B responds; then B asks a prepared question and A responds; 3) the leader may ask for a sampling of questions and answers in order to bridge to a full group discussion.

Reciprocal Questioning: The facilitator provides question stems, such as the following.

Comprehension Question Stems Connector Question Stems

Describe...in your own words. Explain why...and how...

What does...mean? How are...and...similar?

Why is...important? How are...and...different?

How could...be used to...? How does...tie in with...that we learned before?

Participants then develop specific questions from the given stems and provide answers. Students can work individually, with a partner, or in a small group.

Role-plays: This technique encourages participants to explore solutions to situations or problems under discussion. It is a small, often unrehearsed drama where participants are given roles that they are to act out. There is no 'script' given, or particular words that participant-actors must say. A description of the situation is given, plus the positions they should take, what they might do or opinions they should express.

Process - Roles may be set up by the facilitator, or participants may make up their own. The description of a role-play can be given orally or by handout. Participants acting in the role-play should be given time to prepare. Participants act out the role-play as the characters they are portraying. Afterwards, the facilitator leads a discussion and analysis of what was seen or felt by participants. 'Actors' are given a chance to describe their roles and what they were doing, to see if it matches what participants observed. Participants then discuss how what they saw relates to their own lives and situations they encounter.

Advantages - Discussions following the role-play can center on the role, opinions and actions of the characters presented, and thus avoid criticism of the participants themselves. This technique is entertaining as well as educational, and improves participants' skills of expression and observation.

Rotating Chair Discussions: The Rotating Chair group discussion method works well in several situations; groups well versed in the ordinary usefulness of this process of building ideas will comfortably engage rotating chair practices for handling difficult discussions. The ground rules for Rotating Chair are four: (1) When you would like to participate,

raise your hand; (2) The person speaking will call on the next speaker (aiming to call on a person who has not/has less frequently contributed); (3) The person called on will first briefly restate/summarize what has been said then develop the idea further; (4) As a speaker, if you wish to raise a new question or redirect the discussion, you will briefly summarize the points made in the prior discussion, and where possible create a transition from that thread to the one you're introducing.

Participants gain the most from Rotating Chair discussions by not only participating as speakers, but by also being attentive listeners, jotting down notes about ideas so that ideas develop in those spaces between speaking, learning from others' ideas rather than listening for a "right idea" or "right answer" to emerge, and trusting that the opinions and experiences that you offer in speaking will increase the knowledge base and problem-solving capacity in the classroom.

Send/Pass-a-Problem: This structure is particularly effective for problem solving. Its exact source is unknown. The Howard County Maryland Staff Development Center developed a version of it inspired by Kagan's (1989) work. The starting point is a list of problems, issues, or case studies, which can be generated by students or can be teacher-selected. Each team records its problem on the front of a folder or envelope. The teams then brainstorm effective solutions or responses for these problems, issues, or case studies, recording them on a piece of paper. At a predetermined time, the ideas are placed in the folder or envelope and forwarded to another team. The members of the second team, without looking at the ideas already generated, compile their own list of solutions or responses. The folder with the two sets of ideas is forwarded to a third team which now looks at the suggestions provided from the other teams, adds its own, and then synthesizes the ideas from all three teams. Alternatively, if the problems generated a list of ideas, then the teams can select the best two solutions. During this activity, students are engaged in the highest levels of Bloom's taxonomy (1956)—evaluation and synthesis.

Simulations: This technique is used to involve participants directly in an experience. A simulation is a model of reality created so that participants can see the effect of certain actions on a given situation. This can be done through a carefully prepared board game or an expanded fish bowl/role-play activity that involves all participants.

Process - Identify a situation that you wish participants to experience. Consider the main issues that you want them to understand. Think of a number of actions that could be taken to respond to these issues and possible outcomes of such actions. Use these as guidelines to prepare a board game or extended role-play activity that will actively involve the participants in the situation you have identified. Try the simulation out to see if participants are truly experiencing the essence of the situation as you had hoped. Adjust your simulation accordingly.

Advantages - By simplifying and simulating real life situations, participants can discover the relationships between various forces and the effect of different actions on those forces. They can develop a feeling for how to act in certain situations. It can be a very good mechanism for introducing information (about development activities, etc.) and developing problem-solving skills.

Student Summary of Another Student's Answer: In order to promote active listening, after one student has volunteered an answer to your question, ask another student to summarize the first student's response. Many students hear little of what their classmates have to say, waiting instead for the instructor to either correct or repeat the answer. Having students summarize or repeat each others' contributions to the course both fosters active participation by all students and promotes the idea that learning is a shared enterprise. Given the possibility of being asked to repeat a classmates' comments, most students will listen more attentively to each other.

20+ Small Groups: It is often necessary to break a large group of participants into small groups in order to facilitate discussion, problem-solving, or team activities and tasks. The size of groups can range from 2 to 10, or even 15 or 25 (depending on how large a group you are breaking up. Optimal group size is 5-8 for discussions and 4-6 for task-related activities.

Process - A specific task is assigned to smaller groups (the task may be the same or may be a different task for each individual group). The purpose of the task is clearly stated and a time limit imposed. How the group's work is to be presented is clearly defined, and shared responsibility for presentation is given to all members of the group. Following these instructions, the task is carried out. The small groups come back together and results are presented to the whole group.

Advantages - The smaller the group, the greater is the chance for individual participation. The more small groups there are, the better are the chances of coming up with interesting information and more solutions to problems.

Dyads/Triads: Dyads and Triads are small groups of two to three people best used for quickly discussing topics and generating ideas. They help to ensure that all individuals contribute and are engaged in the learning experience.

Team-Based Learning: This is an extended/advanced small group format where a small group of learners (generally 3-6, preferably 4) form a team and tackle a problem or project together. Teams may work together on a specific task for a session, part of a course, an entire course or even a year. Clarifying tasks, identifying roles, and managing group dynamics are important considerations in facilitating team-based learning.

Forming Small Groups and Teams: There are many different ways to break participants into small groups: most of these are quite simple and straightforward. The most important thing to remember is that you should continually change the way you do this. Since small groups can be used quite a bit, the more variety you can use in breaking people up, the more interesting you can keep this process for the participants. Here are a few examples of different ways to break a large group into smaller groups.

Random Grouping:

- **Count off** - Have participants count off, one after another, by number (1, 2, 3,...), letter (a, b, c,...) or any other grouping labels that you identify (supervisor, instructor, learner,...; cow, chicken, goat,...; etc...). Give them an example or help them to begin by explaining carefully how many groups they should form.
- **Use cards** - Prepare cards that can be passed out face down or selected by participants to help them form small groups. Write numbers, letters or group names on the cards or use cards of different colors. This technique provides varied and more random groupings than counting off and is particularly necessary when forming groups for jigsaw, where each participant from the first part group must be in different second groups.
- **Use found objects** - bottle caps (different types), sticks, stones, pencils, pens, beans, corn kernels, and many more small objects can be collected, placed in a basket, hat or small box and passed around to allow participants to pick an object. Make sure to count carefully and evenly the number of objects included so that there are sufficient objects for each participant and groups are of the correct number/size.

Strategic Grouping:

- **Use team forming strategies** - Ask for volunteers, elect, or otherwise identify individuals to serve as team leaders. Have these individuals choose other participants to join them on their team. You may even choose to provide guidelines for each round of selection (someone you know, someone you don't know, someone wearing blue, someone tall, etc.) or have each new team member choose the next team member.
- **Use Self-selection/Sign-up** - Post categories of topics or commonly identified interests and allow participants to self-select and sign-up for that which is of greatest interest or is least well known to them.
- **Use areas/seating arrangements** - Divide participants into small groups according to where they are seated. Unless you are able to keep participants changing seats, do not use this technique too often, as you will end up with similar groups.
- **Use personal characteristics of participants** - Divide participants according to where they come from, their background and experience, disciplinary interests, gender, or other relevant characteristics. Use these characteristics to create small groups with similar participants or a balanced mixture, depending on the task and purpose of the small group.

Text Rendering: A Critical Friends Group Protocol (Kaia Tollefson)

- Round 1: Share a sentence from a document that is particularly significant
- Round 2: A phrase (scribe records)
- Round 3: A word (scribe records)
- Discuss: What new insights did you gain about the text by looking at it this way? What is the text essentially about?
- Debrief

Think-Pair-Share: There are various adaptations of brainstorming that serve different purposes and go by different names (Nominal Group Technique, Delphi Technique). One common variation is "Think-Pair-Share" that proceeds precisely as its name implies. Individuals write down their responses to a question/topic posed by the facilitator; they

pair up with someone seated near them and share their ideas. The sharing may stop there or they may join together with another pair(s) and/or end by sharing with the large group. This final sharing is often done in round-robin fashion (to ensure the greatest number of ideas and maximum participation and contributions).

Two Column Method: Before solving a problem or applying concepts, a discussion leader can help participants more fully consider a problem or issue or concept by employing a two-column method of generating and recording responses to a prompt – eg, "A Positive Classroom Looks and Sounds Like/ Doesn't Look Like This." Head two columns on the board/flip chart with "Looks/Sounds Like" and "Doesn't Look/Sound Like" and ask the participants for ideas, observations, recalling of presentation information that will support one side of the board or another. You might ask half the room to be initially responsible for the two minutes of listing "Favorable to A" and the other half to provide "Favorable to B" listing; then you could take a minute to have participants generally add to this base of information and/or generate a "Creating C from A & B" column. This technique can be quite effective in moving a group discussion from basic ideas toward considerations of how to apply those ideas; the listing can provide a base of ideas from which potential problems as well as benefits/successes/possibilities can be identified so that participants can begin a next stage of discussion.

Value Line: A Value Line ascertains students' opinions in a quick and visual way by asking them to line up according to how strongly they agree or disagree with a statement or proposition. For example, instructors may ask students to respond to the following statements:

- Active engagement will typically lead to greater learning.
- Congress should just print the money to fix our economy.
- Students should take responsibility for the prevention of cheating.
- The United States made the correct decision when invading Iraq.
- The Patient Protection and Affordable Care Act will strengthen the U. S. healthcare system.

Clear instructions reinforced by visual aids are particularly important for implementation of a Value Line because many students are unaccustomed to active learning that involves active movement. Interestingly, Medina (2008) and others emphasize that human brains evolved when our ancestors were constantly on the move and, thus, movement enhances learning. To initiate the structure, teachers ask students, after a moment of "think time," to jot down a number from 1 to 5 that best describes their position on a given issue. Instructors next ask students who have chosen "1" to stand at a designated point along the wall of the room. The students who have chosen "2" follow them, and so forth until all students are lined up. After the students have formed a continuous line based on their own opinions, instructors identify the midpoint. The easiest way to do this is to ask students to number themselves sequentially in a count-off (1, 2, 3, 4, 5, etc.).

The teachers can then form heterogeneous discussion groups by taking one student from each extreme of the line and two from its midpoint. Instructors continue to form teams with this procedure until all students have been assigned to a team and have found their designated seats. Any students left over join a team as a fifth member.

Write-Pair-Share: The format for this strategy is identical to the think-pair-share, except that students process the question asked of them by writing about it rather than reflecting. After a brief time to note their thoughts, each student turns to a partner to discuss. The activity closes with the instructor calling on random students to summarize their responses. As with the think-pair-share, the instructor may choose to skip the summary portion of the exercise depending on circumstances.

TECHY IDEAS

- Peer discussion/teaching using Voicethread (show example)
- GoogleApps (docs, presentations, hangout)
- Wisdoms Wall
- Panel Discussion or Guest Speaker with Google Hangout, FaceTime, Skype, etc. (can be recorded)

LOW STAKES WRITING

Identify at-risk students early: On the first day ask them to write a paragraph on why they are taking your class, on what they hope to learn, and/or on their background knowledge of the topic. Have them complete a short reading and give them questions about it to answer in one page. You'll get insight into writing abilities, and you'll get to know them some with the first exercise. If poorly written, may indicate being unprepared.

QUICK REFERENCE LIST

- Answer the Question
- Believing and Doubting
- Discussion Tickets
- "Dumb" Question Activity
- Entry Slips and Exit Slips
- Ethical Hypotheticals
- Group Writing Activities
- Focused Freewriting
- Open Letter Writing
- Pause and Write
- Pre-Test Question
- Writing
- Problem Generating
- Reader-Response Writing
- Reflective Writing:
 - Applying Key Terms/Concepts to Personal Experience
- The Sentence/Passage Springboard
- Student-Formulated Questions
- The Short Summary
- Third Party Summaries
- Three Column Organizers
- Translating Passages
- Writing Definitions to Empower the Student
- Writing Out of the Day

Answer the Question: The simple exercise below is designed to improve the written responses to exam questions. Perhaps because of the widespread use of multiple choice exams, many students lack the simple skill of answering the question that is asked.

PROCEDURE

The students will be given the sheet that follows and be asked to evaluate the answers. (Their sheet would not include my comments as below.) After 10 minutes the sheets could be collected and rated or an overhead could be used to criticize as a group each of the 6 answers.

QUESTION

How did the skull and pelvis of fossil "Lucy" revolutionize our thinking about human evolution?

EVALUATE THE FOLLOWING ANSWERS:

1. Pelvis can show if the organism is four legged or two legged. The skull showed the size of the brain.

(Comments are true but fail to address the question.)

2. The skull was smaller and the pelvis was tipped so that upright walking was possible.

(This answer is also true and provides more information but still does not address the question of how "Lucy" reversed our thinking.)

3. It showed that Lucy walked erect millions of years before we thought it was possible.

(What does "it" refer to? I assume the pelvis. Therefore the skull portion of the question is ignored.)

4. Because they were so close to what the human skull looked like from that period of time.

(In addition to not answering the question, this statement is incredibly inaccurate! The answer suggests that Homo sapiens and "Lucy" Australopithecus afarensis co-existed.)

5. Lucy walked upright and yet she had a small brain which contradicted the thinking that the large brain came before walking man.

(very satisfactory)

6. Before Lucy it was common belief that a large brain led to tool use and then upright bipedalism. "Lucy" showed that in fact bipedalism occurred before brain expansion.

(very satisfactory)

Believing and Doubting: This activity is a good way to get students to move beyond simple "either/or" binaries in their reading. Ask students in small groups (or as an individual informal writing activity) to identify the main thesis of a course reading and to outline 3 reasons they believe it and 3 reasons they doubt it. In this way, you can jumpstart discussion and encourage students to think more analytically and complexly (rather than just going with their gut reaction).

Discussion Tickets: Class discussions of ethical theories are encouraged but restricted to students that bring their points in writing. In other words, points written prior to class and brought to the discussion become a student's ticket into the discussion.

"Dumb" Question Activity: Stop after an involved presentation and ask students to imagine that the person next to them was unfamiliar with the material and just walked in. Have the students write down one "dumb" question that this person might ask. (Students often avoid asking questions which appear "dumb").

Ethical Hypotheticals: On my first day with the Business Ethics class, I asked each student to write on a piece of paper their concept of who was responsible for the Union Carbide disaster in India. Asking hypothetical, ethical, questions are an effective way to use writing to ground a class.

Entry Slips and Exit Slips - Entry slips and exit slips are written responses from students to questions you pose either at the beginning (entry) or the end (exit) of class. They usually take no more than five minutes and you can tell very quickly from these responses whether students are with you and are understanding the material. If understanding the relationship of X to Y is crucial to the next step you are discussing, you may want to check students' understanding by having them formulate the relationship in their own words. These slips take only a few minutes to read and to keep you in touch with your students.

Sample questions:

1. What is the cause/effect relationship between A and B?
2. What confuses you about the material you read for (entry) / we covered (exit) today?
3. What are three most important things you learned this class period?

Focused Freewriting: Assign a topic for focused freewrite. Encourage your students to write nonstop for 10-15 minutes (or a time period appropriate for the level of your students), recording all thoughts connected to the topic. Stimulating questions, connections, or misinformation that the students may have about the topic should emerge, so be certain to follow up with small or large group discussion.

Group Writing Activities: The following are samples of group writing activities offered by the *Center for Instruction Development and Research* at University of Washington at Seattle.

A. Ask students to work together revising a document that has already been written. This is a useful activity for work on focus, organization, support, and use of jargon. You might have them rewrite something for a different purpose or audience. You have the option of having them sit down together cold or work individually on the document beforehand and then pool their suggested changes.

B. Assign a group writing project. For example, instructors in sociology, speech communication and political science might divide their classes into 5 or 6 groups in order to investigate local problems or issues. Some students do the background research while other conduct interviews or surveys. Each student prepares a draft of his or her results for

the group. Then the group as a whole must synthesize the information, organize, and prepare a report for presentation to the entire class. This assignment provides the instructor with only five or six papers to grade.

C. Use peer response groups to work on all stages of major assignments:

1. Brainstorm about possible topics or approaches to the assigned topic.
2. Bring in plans or notes for feedback from group members.
3. Read drafts to check that criteria for the assignment are being met. Provide feedback forms that address the criteria (i.e., questions about content, focus, organization, style, etc).
4. Read completed drafts for work on editing and/or revision.
5. Written Critiques: Ask students to write an overall response to another student's essay. Provide guidelines for criticism which address the assignment criteria.

Open Letter Writing: Assign students a topic for an open letter. Encourage them to imagine themselves as that subject while assuming first person point of view to write an open letter to a group (of policy makers; of neighbors; of secondary students) explaining "themselves." You might choose to assign the entire class the same topic or assign students a variety of topics as review. Follow up with small or large group discussion.

Pause and Write: According to Elaine Maimon, stopping during an interesting discussion and having everyone, including the instructor, write down what they would say next focuses an argument.

Pre-test Question Writing: Before a written test pass out test questions and say that the test will consist of two of the questions randomly selected. Students can be encouraged to write out the answers to all the questions working alone but perhaps more productively in groups since the group might insist that the work not be done in a casual manner.

Problem Generating: Have students generate "problems" from the reading or class discussions. Generating problems is often harder than solving them, and so this activity forces students to articulate key issues or questions. One way to do this might be to have math or physics students take a formula or theorem and create a scenario or word problem which would require using the formula. In a history class, students might write journal entries that consist simply of lists of questions from the outside reading that they would pose to the author of the piece or offer up for class discussion.

Reader-Response Writing: Sometimes students need to be reminded that they bring attitudes to the subjects they study that affect their receptivity to the ideas under consideration. One interesting activity to emphasize this point is the following: Have students divide a sheet of paper with a vertical line down the center. On one side of the paper they can write as a heading (The author's) prejudices; on the other side, My Prejudices. Listing the biases of the author forces them to think critically about what they have read. Noting their own prejudices should help them to discover their own angle of vision which informed their response to the material.

Sample Reader-Response Writing Chart

| (The Author's) Prejudices | My Prejudices |
|---------------------------|---------------|
| | |

Reflective Writing: Applying Key Terms/Concepts to Personal Experience: To help students understand and apply course concepts, you can have them complete short informal writing assignments...in which they take a key term or idea from their reading and relate it to their personal experience.

Richard Young, "Taxonomy of Small Genres" <http://wac.colostate.edu/books/young/>

The Sentence/Passage Springboard: Not all sentences strike us with equal force. We do find sentences, however, that catch our attention, perhaps because of their shock value, beauty of expression, or truthfulness. Ask students to note a particular sentence or short passage from their class reading that has captured their attention and to write that sentence or passage across the top of the page. They then spend whatever time you allot to exploring in writing their thoughts about the sentence or passage. This can be an out-of-class as well as an in-class activity.

The Short Summary: Most of us agree that students need help--or perhaps just practice--with their abilities to summarize material. The following exercise gives them practice while it also aids their comprehension: Ask students to summarize in no more than 50 words the main points of their reading assignment. They might do this on regular notebook paper or index cards. The activity encourages them to read the assignment and helps them to remember what they have read. And its brief format is not threatening to them.

You might also combine this activity with small group work, asking each group to work collaboratively on the best version. They could also shorten their summary to 25 words and/or to one sentence.

Student-Formulated Questions: We all strive to become skillful questioners in the classroom. By and large, we generally ask more questions than the students do. By seeking their questions **first**, we can help them explore considerations they might not otherwise have. Once again the point is to **ask them to write their questions** so that all students are involved, not just the quick thinkers who give us the questions we wanted, allowing us to hasten to the points we had in mind all along.

If you asked students to write on **authenticity** or **vulnerability**, as suggested in the previous exercise, they might pose the following questions: How do I recognize the authentic from the unauthentic? Am I authentic? Is vulnerability desirable? When does vulnerability become injurious? Do I understand my own vulnerabilities? Other subjects would have different questions: What is missing from this author's argument? What do I want to know that was not provided in this information? What are the consequences of X? Formulating questions (learning **what** to ask and **how** to ask) helps students better understand the material and assess the relevance of what they are studying to themselves and their world.

Students can bring their questions to class as a homework assignment, or the questions can be generated in class.

Third Party Summaries: As third party observers, students can summarize the major participants' points of view in a classroom discussion.

Three Column Organizers: On a particular issue, show students how to list in three columns what is interesting, positive, and negative about the idea.

Translating Passages: Ask students to translate crucial passages into their own language as carefully as possible. Be true to meaning, imagery, and tone.

Writing Definitions to Empower the Student: Students often claim to lack knowledge of or attitudes towards the topics they study. One way to illustrate that they bring knowledge and attitudes to their studies is to ask them to write on a concept **before** it is discussed in class. For example, if you are reading a feminist article by a female author who is lamenting that her work, because of its feminine subject matter, is discounted by the long established patriarchal publishing world, you might ask students to write about the word **authenticity**. What is authentic? After asking several students to read their definitions, you then bring the discussion around to the search for a writer's authentic voice (the unique angle of vision that informs a work) and the societal standards that have confined and perhaps even silenced those voices. If the discussion is on love, you might ask them to write about **vulnerability**. The point is to get them to see connections (that's why you don't want them to write directly on the topic), to circle around, always broadening their perspectives based on what they already know and/or think.

Writing Out of the Day (WOOD): Students will be asked at the end of each class period to summarize what was learned that day. The instructor will also write along with the students. The class will read their summaries to each other and rewrite anything they might have missed in their summary as a homework assignment.

Pamela Flash, The Center for Writing, University of Minnesota

- When introducing the activity, give students your rationale for assigning it. Avoid characterizing it as a “fun, little writing activity.”
- If you’re using a prompt, present it both orally and visually by writing it on the board or projecting it on the screen. Exceptions include disciplines where response to oral instructions is valued.
- Whenever possible, do the activity yourself before presenting it to students and/or do it along with them in the class. This makes a significant impact on student motivation.
- Before students write, describe next steps. Will the writing be collected? discussed? included in an assignment portfolio? graded? If students are going to be able to be truly informal, they need to know that they aren’t going to be judged on the quality of their exploratory writing.
- Be clear about time limits (“I’ll stop you in 5 minutes”) and when time is almost over, give 1-minute or 30-second warning.
- At the completion of the assignment, ask students to reflect on insights and developments.
- If you collect student writing, summarize, or at least highlight and comment on your findings during a subsequent class.

Effective write-to-learn assignments...

- Are short (3-15 minutes)
- Ask students to write a word, a sentence, question, or a paragraph or two
- Are integrated (explicitly) into class content, objectives, and activity, and, are optimally, utilized in subsequent writing projects
- Elicit multiple responses
- Where appropriate, receive some content-focused (versus mechanics-focused) response
- Aren't formally graded, but count toward a portion of the grade

Now What?: Responding to Informal Writing

If the primary purpose of informal writing is learning (rather than communicating what has been learned) and if the intended audience is usually limited to the writer, how are instructors advised to grade or respond to the writing generated by these activities? Unlike finished student work elicited by more formal assignments, informal writing is not assessed for style or grammar; you’ve asked students to formulate and pursue ideas in a creative and potentially messy process. With this in mind, consider the following strategies for working with completed informal assignments:

For in-class short-writes:

- Do nothing more: continue with the discussion, demonstration, or lecture, confident that the activity succeeded in allowing students to deepen their understanding of the target content.
- Follow the activity by giving students class time to voice ideas and/or questions they may have uncovered by writing. In large classes, ask students to discuss ideas from their writing with a peer in order to share or synthesize responses that you then pull into discussion.
- Collect the writing with or without student names. You can read them quickly for your own information, and then summarize this information in the next class session, or you can grade them (check, check minus, check plus).
- Ask students to keep their writing until the semester’s end, then hand in their five best for grading.

Grading informal writing assignments

- Respond with a simple check plus (excellent), check (satisfactory), or check minus (sub-adequate) and, if time is limited, minimal comments:
- “Your insights on issues relating to privacy in health care reporting are strong and could be developed into a compelling argument!”

- “You’ve named some of the most important issues involved with privacy and health care, but don’t develop any of them persuasively.”
- “You’ve summarized the articles and have respond thoughtfully, but don’t answer the assigned question.”

Three important caveats:

Freewriting often results in personal writing that students should not be asked to make public. Make sure that you are clear about audience before the assignment is undertaken.

Whether or not their informal writing receives a grade or comment, students should be given credit for doing it. Allocating a percentage of their final course grades to informal assignments and/or class participation can allow you a place to accumulate the minor numbers of points given to these small assignments. You might also ask students to compile and turn in all “process pieces” like drafts and informal writing with a final project, and allocate a percentage of that project’s cumulative grade.

Anticipating that students may be as unfamiliar with un-graded assignments as they are with the whole concept of writing-to-learn, expect that their engagement with either aspect may require some discussion of rationale on your part as you introduce the activities

See the following websites for more low stakes writing ideas:

- <http://nancy-rubin.com/2011/10/11/writing-across-the-curriculum-classroom-activities/>
- <https://gustavus.edu/wac/faculty/activities.php>

| |
|--------------------|
| TECHY IDEAS |
|--------------------|

- Give feedback using a video or VoiceThread
- Have students read work out loud and give each other feedback
- Online reflections, journals, wikis, discussions

THE ENHANCED LECTURE

THE EXISTING LECTURE

1. Lectures fail to provide instructors with feedback about the extent of student learning.
2. In lectures students are often passive
3. Students' attention wanes quickly after fifteen to twenty-five minutes.
4. Information tends to be forgotten quickly
5. Presume that all students learn at the same pace and are at the same level of understanding.
6. Not suited for teaching higher orders of thinking
7. Not well suited for teaching complex, abstract material.
8. Require effective speakers.
9. Emphasize learning by listening, which is a disadvantage for students who have other learning styles.

THE ENHANCED LECTURE: BEGINNING

- Present main points/new concepts
- Identify what you expect students to gain from the session
- Stimulate prior learning with an opening question about main points/concepts
- Students write about the question; think-pair-share about it; students brainstorm in pairs, list what they know about it

Background Knowledge Probe: BKPs questionnaires ask for basic, simple responses (short answers, circling/showing of hands in response to multiple choice questions) from students who are about to begin a course, a unit, or study of a new concept. Such probes are meant to help teachers determine effective starting points/appropriate levels of instruction for a given subject and/or class. Used to both open and close course activities, a BKP helps students focus attention on what will be important material.

THE ENHANCED LECTURE: MID-POINT

- "Meat" of lecture
- Pause every twelve or fifteen minutes for students to process the information actively.
- Build activities into slides
- Stump Your Partner: students turn to neighbor with a question they feel is difficult. *Collect some verbally or on 3 x 5 inch note cards and re-purpose them in other lectures, in practice exams, or on a mid-term.*
- Note Check: partners compare notes, focusing specifically on most important points of preceding content and what they are most confused about. *Can collect this information verbally or on note cards*

Finger Signals: This method provides instructors with a means of testing student comprehension without the waiting period or the grading time required for written quizzes. Students are asked questions and instructed to signal their answers by holding up the appropriate number of fingers immediately in front of their torsos (this makes it impossible for students to "copy", thus committing them to answer each question on their own). For example, the instructor might say "one finger for 'yes', two for 'no'", and then ask questions such as "Do all organic compounds contain carbon [hydrogen, etc.]?". Or, the instructor might have multiple choice questions prepared for the overhead projector and have the answers numbered (1) through (5), asking students to answer with finger signals. In very large classes the students can use a set of large cardboard signs with numbers written on them. This method allows instructors to assess student knowledge literally at a glance.

Flash Cards: A variation of the Finger Signals approach, this method tests students' comprehension through their response to flash cards held by the instructor. This is particularly useful in disciplines which utilize models or other visual stimuli, such as chemistry, physics or biology. For example, the instructor might flash the diagram of a chemical compound and ask "Does this compound react with H₂O?". This can be combined with finger signals.

Quotations - This is a particularly useful method of testing student understanding when they are learning to read texts and identify an author's viewpoint and arguments. After students have read a representative advocate of each of several opposing theories or schools of thought, and the relevant concepts have been defined and discussed in class, put

on the overhead projector a quotation by an author whom they have not read in the assigned materials, and ask them to figure out what position that person advocates. In addition to testing comprehension of the material presented in lecture, this exercise develops critical thinking and analysis skills. This would be very useful, for example, in discussing the various aspects of evolutionary theory.

Lecturettes: Lecturettes are short forms of a lecture, which are used to highlight key points of content. They differ from traditional lectures in that they often incorporate participants' interactions and, at times, give the impression of a discussion. They are useful as introductions to topics and to experiential activities. Lecturettes seldom last longer than 15 minutes.

Process - Review or read through the information that you want to present. Write out an outline of the key points that you want to cover. Consider what visual aids can help your presentation and prepare them in advance if possible. Identify points where you can involve participants through questioning, discussion, or other activities. Practice and time your lecturette to make sure that you have not prepared either too little or too much for the time allotted. As you present your lecturette (or any lecture), keep an eye on the participants and make sure that you are holding their attention. If people start to drift off, do something. A lecturette is only effective if you are able to keep participants listening, involved, and aware of the points you are trying to share.

Advantages - Lecturettes can provide detailed and specific information in a short amount of time.

Multimedia Presentations: Many instructional activities can benefit from strategically incorporating visuals and media that provide organizing frameworks, grounding images or engaging references that help participants to connect with the material being covered and tap a variety of senses. Best known among presentation options is PowerPoint that offers an easily accessible and effective tool for integrating text, visuals, media and internet referencing in a guided exploration of a topic.

Process - Identify a topic that you want to cover and consider the key references situation that you wish to share with participants/students. Map this out in your mind and on paper. Collect relevant text, documents, visuals, media and weblinks and convert to digital format as necessary. Construct a PowerPoint presentation that integrates these components in a coherent, sequential manner. Utilize consistent design and layout to get your points across. Insert interactive "pauses" and tasks that encourage participation (and break up the potential for fully passive presentation). Practice your timing/presentation and check ahead of time to make sure the technological support is operating appropriately. Print out a copy of your presentation and have a "plan B" (in case you hit a technological glitch).

Advantages – Multimedia presentations can capture attention and address multiple senses, reinforcing participant connection to and ultimate retention of the information covered. Embedding multiple media within PowerPoint allows for easy access and smooth coherent presentations; linking out to the internet connects your topic to the world/external resources

Online: Search for useful images through community image sharing sites such as www.flickr.com or <http://picasaweb.google.com> – look for and reference Creative Commons licensing when citing (<http://creativecommons.org/>)

Note Check: Students pair with a partner/small group to briefly (2-5 minutes) share notes. They can clarify key points covered, generate and/or resolve questions, generate a problem to solve, solve a problem posed by the instructor, or write a paragraph synthesizing key ideas as set out in partner's notes.

Student Summaries: During a class session, the instructor pauses and asks students to explain to a partner the central concepts just presented. The activity can be altered in several ways. The instructor can request that students write or think individually prior to discussing with a partner, making the activity resemble a think/write-pair-share.

Ten-Two Strategy: Presenter shares information for ten minutes and then stops for two minutes to encourage listeners to pair and share their ideas, fill in any gaps or misunderstandings, and allow each other to clarify information.

WRAPPING UP

3 - 2 - 1 Format: Presenter instructs students to jot down and share with partner or small group:

3 ideas/issues etc. presented

2 examples or uses of the idea/information covered

1 unresolved/remaining question/area of possible confusion

Muddiest (or Clearest) Point: This is a variation on the one-minute paper, though you may wish to give students a slightly longer time period to answer the question. Here you ask (at the end of a class period, or at a natural break in the presentation), "What was the "muddiest point" in today's lecture?" or, perhaps, you might be more specific, asking, for example: "What (if anything) do you find unclear about the concept of 'personal identity' ('inertia', 'natural selection', etc.)?".

Word Journal: The Word Journal prompts a two-part response. First, the student summarizes a short text in a single word. Second, the student writes a paragraph or two explaining why he or she chose that particular word to summarize the text. The completed response to the Word Journal is an abstract or a synopsis of the focus text. Have students discuss and compare their responses.

The Word Journal can help faculty assess and improve several related skills. First, it focuses on students' ability to read carefully and deeply. Second, it assesses skill and creativity at summarizing what has been read. And third, it assesses the students' skill at explaining and defending, in just a few more words, their choice of single summary word. Practice with this CAT helps students develop the ability to write highly condensed abstracts and to "chunk" large amounts of information for more effective storage in long-term memory. These skills are useful in almost any field, particularly the professions.

Visible Quiz (Staley, 2003): Students in groups discuss the appropriate response to quiz questions, typically multiple choice (A, B, C, or D) or True (T) False (F). Each team has a set of large cards imprinted with one of the four letters or the T or F. The cards also have a unique color (e.g., all A's might be orange and all T's blue). At a given signal, one person from each team displays the team's answer, allowing the instructor to determine how well students understood the question. She then gives the correct answer, going into a mini-lecture if a sizable number of students gave inappropriate responses. She can also call on groups to explain the rationale for their selection, sometimes uncovering misconceptions or poorly constructed, ambiguous wording in the questions. Visible Quiz cards are sometimes called the "poor teacher's clickers" because they function like personal response systems without the histograms and recordkeeping. They have the advantage, however, of allowing teachers to identify immediately the groups giving incorrect answers. As Lasry (2008) points out, the learning depends on the peer coaching, not the delivery mode. The immediate feedback also helps learning.

- Summarize information
- Provide closure, ask students to connect information to themselves, their own values, and its application to the world
- Muddiest Point as a Ticket Out on 3 x 5 cards, or verbally – be sure students make note of it for themselves
- Any Final Questions
- Ask students to answer 2 or 3 very brief questions related to main points/concepts as a "classroom assessment technique" that doubles as an active learning strategy

TECHY IDEAS

- Flip the class
- Create your own videos or use existing videos (Lynda.com, Youtube, CNN) and require students to watch prior to class.
- Weave in use of technology as provided throughout
- Interactive presentations, lists, agendas, etc. (using GoogleDocs/Presentation) Focused Listing.

Social Barometer/“Taking a Stand”: This technique promotes interaction, discussion and critical thinking by encouraging participants to “take a stand” on a particular topic or issue, identifying and considering/re-considering their opinion as they share and compare their rationales for their chosen stance.

Process – Facilitator prepares wall signs showing levels of agreement disagreement and posts these either along a wall (forming a continuum) or around the room (creating cluster areas). Signs generally read: Agree, Disagree, and No Opinion (and/or may include Agree/Disagree). With larger numbers of people you may expand these categories to include Strongly Agree or Disagree. Facilitator generates statements that prompt individuals to “take a stand” on a particular issue or topic and encourages participants to stand near the sign that best represents their current stance. Participants are encouraged to talk briefly with others near them and explain why they chose this position. Facilitator invites brief reports from each position, poses challenging questions as appropriate and, in the end, offers everyone a chance to change their position. As time allows, additional conversation encourages individuals to share why they changed their stance.

Advantages – Active movement, sharing, comparing and thinking out loud encourages appreciation of multiple perspectives and the importance of having and articulating supporting reasons for taking a position. All of these contribute to and demonstrate critical thinking.

Online: Use polls from www.polleverywhere.com & computers, phones (or clickers/Personal Response Systems) to collect and project opinions. Use surveys in Blackboard to collect & share opinions and/or threaded discussions to share and compare “stands” (take “before” and “after” snapshots to track shifting opinions).

THEORETICAL AND EVIDENCE-BASED FOUNDATIONS OF ACTIVE LEARNING

Principles of Good Practice (Chickering & Gamson, 1987)

1. Encourage student faculty interaction
2. Encourage collaboration between students
3. Use active learning techniques.
4. Give prompt feedback.
5. Emphasize time on task.
6. Communicate high expectations.
7. Respect diversity of talents, experience, & ways of learning.

(Chickering & Gamson, 1987)

What Matters to Student Success (Kuh et al, 2006)

1. Make the classroom the locus of community
2. Student-faculty interaction
3. Setting high expectations, supporting and holding accountable
4. First-generation students who engage in active learning and who more frequently discuss courses with other students had higher probability of success
5. Peer interaction positively influences overall academic development, knowledge acquisition, analytical and problem-solving skills, and self-esteem

Validation - Kuh, via rendon

- “validation” -- an enabling, confirming, and supportive process
- Initiated by faculty and other agents of socialization in and out of the classroom
- Fosters student success, particularly for historically underserved students.
- Calling students by name, working one on one with students, praising students, providing encouragement and support, encouraging students to see themselves as capable of learning, and providing vehicles for students to support and praise each other

The Science of Learning (Halpern & Hakel, 2003)

- Ultimately, the goal is long term retention and transfer of knowledge (not short term memorization)
- Practice retrieval
- Vary the conditions
- Learners "re-represent" information in an alternative format
- Construct knowledge best upon prior knowledge and experience

"WHAT PROFESSORS DO IS FAR LESS IMPORTANT THAN WHAT THEY ASK STUDENTS TO DO."

How to Promote Student Learning (Gorham, 1988)

1. Appropriate use of humor
2. Praising student performance
3. Engaging students outside of the classroom
4. Appropriate level of self-disclosure
5. Encouraging students to talk
6. Asking questions about student viewpoints or feelings
7. Following up on topics raised by students even if not directly related to class material
8. Referring to “our” class and what “we” are doing.

REFERENCES/RESOURCES

- Kuh, G, Kinzie, J. Buckley, B. Bridges, and J. Hayek, “What Matters to Student Success: A Review of the Literature,” Commissioned Report for the National Symposium on Postsecondary Student Success: Spearheading a Dialog on Student Success, 2006 nces.ed.gov/ipeds/pdf/kuh_team_report.pdf
- Millis, B., “Active Learning Strategies in Face-to-Face Courses,” The IDEA Center paper 53 <http://www.theideacenter.org/research-and-papers/idea-papers/53-active-learning-strategies-face-face-courses>
- Kinzie, J., R. Gonyea, R. Shoup, and G. Kuh. “Promoting Persistence and Success of Underrepresented Students: Lessons for Teaching and Learning,” *New Directions for Teaching and Learning*, no. 115, Fall 2008
- Chickering, A. W., and Z.F. Gamson. “Seven Principles for Good Practice in Undergraduate Education.” Chickering, A. W., and Gamson, Z. F. (eds.). “Seven Principles for Good Practice in Undergraduate Education.” *AAHE Bulletin*, 1987, 39, 3–7.
- Paulson, D. and J. Faust. “Active Learning for the College Classroom” <http://www.calstatela.edu/dept/chem/chem2/Active/>
- University of Minnesota Center for Teaching and Learning <http://www1.umn.edu/ohr/teachlearn/tutorials/active/strategies/index.html>
- Bonwell, C. and J. Eison. „Active Learning: Creating Excitement in the Classroom”. ERIC Digest
- Halpern, D. and Hakel, M. “Applying the Science of Learning to the University and Beyond” *Change*, (July/August 2003), 36-41.
- Bonwell, C. C. (1996). "Enhancing the lecture: Revitalizing a traditional format" In Sutherland, T. E., and Bonwell, C. C. (Eds.), *Using active learning in college classes: A range of options for faculty*, *New Directions for Teaching and Learning* No. 67.
- “Walk-Through” Mini-Research Project, John Bean <http://wac.colostate.edu/teaching/fullitem.cfm?itemID=20>