Best of the 2016 Teaching Professor Conference
ABOUT THIS REPORT

The 2016 Teaching Professor Conference was held in Washington, D.C., June 3-5. This report highlights some of the top rated sessions and presenters from the conference.

We hope you were among the more than 1,000 educators from around the world that came together to explore the latest pedagogical research, network with like-minded educators, and discuss the state of today’s changing classroom.

All articles were originally featured in Faculty Focus (www.facultyfocus.com).

If you did not have a chance to join us in D.C., we hope to see you in St. Louis for the 2017 Teaching Professor Conference.

Learn more at www.teachingprofessor.com.

“I have been to a lot of conferences and this is my first year for this particular one. I got more out of these two and a half days than I have with some that last a week. Topics were meaningful, practical and relevant.”

—S.G., University of North Texas

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Three Focusing Activities to Engage Students in the First Five Minutes of Class

Written By: Barbi Honeycutt, PhD, Adjunct Assistant Professor in the Department of Leadership, Policy, Adult & Higher Education in the College of Education at North Carolina State University and Owner, FLIP It Consulting. Presenter at the 2016 Teaching Professor Conference.

When I teach workshops about designing the flipped classroom, I always encourage faculty to think carefully about the first five minutes of class. In my lesson plan template, one of the first tasks we discuss when planning in-class time is to prepare what I call a “focusing activity.” A focusing activity is designed to immediately focus students’ attention as soon as they walk in (or log in) to the classroom. When used in conjunction with flipped and active learning classroom models, focusing activities allow you to minimize distractions, maintain momentum between pre-class and in-class activities, and maximize the amount of class time you have to engage students in learning.

Most focusing activities take fewer than five minutes of class time and are highly flexible. Focusing activities may include collaborative activities to connect students, generate discussion, and compare ideas; individual activities where students work on their own by reading, reflecting, or writing; or a brief quiz or some other type of assessment. You can also use a focusing activity to introduce a new idea or to set the stage for what’s to come during class. Finally, focusing activities can be high-tech, low-tech, or no tech.

And, as a bonus, when you use a focusing activity in the first five minutes of class, you will set the expectation that students come to class and start working immediately. When you establish this routine in your class, your students are more likely to do the pre-class work because now they see how their work is used during class.

So, let’s get to it. There are many ways to start class with a focusing activity. Some require an up-front investment of time to plan and prepare, while others require very little advance work. Here are three activities with varying degrees of prep work.
Focus with a looping slide deck.
This one takes a high level of prep time.

When you go to the movies, you may have noticed how the theaters use a slide deck featuring a mixture of advertisements, movie facts, and trivia questions. I used this model for a focusing activity at a new student orientation a few years ago, and it was a huge success. The slide deck featured interesting facts about the university, popular trivia questions, answers to students’ most frequently asked questions, announcements about upcoming events in the nearby community, and pictures of campus landmarks.

As students arrived for the orientation, the slide deck provided a continuous loop of the same 20–25 slides. It was a great way for these new students to start conversations with others, learn more about the campus, and focus on the topic of orientation.

Why not take this approach and create a focusing activity for your class? Prepare a deck of 5–10 slides featuring content related to the course material for the day. You can post multiple-choice questions, quotes from the reading, fill-in-the blank sentences, and so on. Enlarge a photo and ask “What is this?” to spark conversations among students when they arrive to class. Post important announcements for upcoming deadlines (e.g., “Your first draft is due Friday!”) so you aren’t taking up valuable class time with these types of reminders. After class, post the slide deck to the course website as an additional resource for students to reference as needed.

Focus with an ordering exercise.
This one takes a medium level of prep time.

If you have a list of processes or procedures that must be completed in a certain order, you might want to try this focusing activity. Post the list of steps or procedures on the screen and make sure the list is out of order. As students come in, ask them to start putting the list in the correct sequence based on established criteria. You can use this strategy for almost any kind of list or categories in your course. Think about criteria such as short to long, weak to strong, light to heavy, old to new, warm to cold, high to low, and so on.

Focus with drawing. This one takes a low level of prep time.

Prompt your students to draw a process, create a diagram, or illustrate a main point from the course material. A drawing might include creating a mind map of the main points of the course material so you can see how students organize information, a graph of a set of data points collected from a survey, or their interpretation of what’s happening in the story or what a character might be feeling. Here are a few examples:
• Draw the cycle of how blood flows through the heart.
• Diagram the bones of the hand.
• Draw a comic strip illustrating the main character’s journey.
• Color code the map to show the boundaries between counties.
• Draw the perfect phone and diagram the features.

Alternatively, you can show an existing illustration or drawing and ask students to relate it to the course material, diagram it, or analyze parts of it.
Remembering to Learn: Five Factors for Improving Recall

Written By: Debora S. Herold, PhD, Senior Lecturer in the Psychology Department at Indiana University Purdue University Indianapolis. Presenter at the 2016 Teaching Professor Conference.

As a professor of cognitive psychology, I teach about memory, especially about when and why our memories often fail us. Students are excited to apply this material to their everyday lives.

During a recent class, a student asked whether other faculty were familiar with this research and remarked that it would be helpful if everyone structured their lessons with this knowledge in mind.

I offer the following tips taken from basic memory research. All of these findings can be easily applied to how you teach your classes and advise students.

1. **Attend to information.** How often are your students checking text messages while listening to your lecture, arguing that they are really good at multitasking? Remind your students that most failures of memory are not problems with retrieval but with encoding. Most of the time we do not have difficulty pulling information out; the problem is that we never got it in to begin with. To make this point, I use the classic Nickerson and Adams (1979) penny task and ask students to draw the head of a penny from memory. They quickly realize that they have “forgotten” which direction Lincoln is facing or are unsure which phrases are on the heads or tails side. Explain to your students that they didn’t forget what a penny looks like. The truth is that they never bothered to encode the information. To remember something, they need to engage in controlled processing. They have to block out other distractions and focus on the task at hand.

2. Engage in deep processing and self-reference. Deep processing involves thinking about the meaning of the information and connecting it to personal experiences. To make this point, I use a modified version of Craik and Tulving’s (1975) study and present students with a list of adjectives, such as “creative,” “methodical,” or “serious.” For some of the words they are asked a question about how it is spelled; for example, “Does the word contain the letter T?” For other words, they are asked, “Does the word describe you?” Later, students are asked to recall as many of the words as possible. Students are significantly more likely to recall words from the “describe list” because they had to think about the meanings and apply the words to themselves. Simply reading over a paragraph of text or listening to a lecture does not guarantee encoding it into memory. What one thinks about while listening or reading is what matters.
3. **Generate cues.** Students often request that I provide more examples of the concepts we are discussing. Although instructor-provided examples and explanations are important, I teach my students that it is more important that they come up with their own examples and cues. Research by Mäntylä (1986) reveals that participants recalled 36 percent more concepts when using self-generated cues than when using cues developed by someone else.

4. **Create context.** Instructors know that students often come to class unprepared. Students argue that they prefer to hear the lecture before reading the chapter. To explain why skimming the chapter before class is important, I read my students an oddly worded passage from a study by Bransford and Johnson (1972). First, I show half of the class a picture that creates context for what they are about to hear. For this half of the group, the strangely worded passage is clear, and they find they are able to recall large portions of it after hearing it just once. The group not shown the picture fails to make sense of what they have heard and have difficulty recalling details. Without looking at material before class to create context, it is difficult for new material to make much sense.

5. **Test frequently.** This is the easiest strategy and can have the most impact on students. Contrary to expectation, Roediger and Karpicke (2006) found that seeing a passage only once and then forcing yourself to recall it from memory leads to better retention than repeatedly reading the passage. Incorporate brief tests or quizzes into your course, and encourage your students to self-test as they study. Reading a passage and then stopping to ask yourself what you just read is going to be more effective than reading it twice.

Students may have heard much of this advice before. However, taking the time to put students through these demonstrations will allow them to experience how these small adjustments can influence their recall. They will then see the value of changing the way they study.

**References**


Avoiding Burnout: Self-Care Strategies for Faculty

Written By: Camille Freeman and Bevin Clare, licensed nutritionists and associate professors at the Maryland University of Integrative Health. Presenters at the 2016 Teaching Professor Conference.

Now that you’ve finished assessing your students, it’s time to turn the assessment process around by looking in the mirror. If you limped across the finish line last semester, it may be time to identify some new strategies for self-care. In our “Tending the Teacher” session at the recent Teaching Professor Conference in Washington, D.C., we presented a menu of ideas to help faculty design a balanced and productive work life. Here are our top tips:

1. Examine how you spend your time and energy: Which work-related tasks or activities leave you feeling energized or excited? Which feel like unnecessary chores rather than positive contributions? Next year, prioritize the aspects of your job that build you up or represent an important contribution to the field. Minimize tasks that drain or deplete your energy without commensurate benefit. Cultivate the art of saying “no” in order to focus on what’s important to you.

2. Check your rhythm: Circadian rhythms allow us to anticipate and respond efficiently to environmental changes. Creating a degree of predictability in your schedule can help align your internal clock. While it’s rare for an academic to have a “normal” day, you can control some aspects of your schedule. Waking up and going to bed at about the same time each day will help to synchronize your body clock. Similarly, eating and exercising at predictable times both support this process. Many people feel more energetic and productive when they follow these basic guidelines.

3. Rethink course design: While we all strive to have engaging and interactive courses, doing so can be quite time consuming. Use creative course design strategies and tools to provide engaging experiences for students without taking up a disproportionate amount of your time. For example, use a simple audio recording tool to provide feedback instead of typing your comments. If your school’s LMS doesn’t provide an audio feedback tool, Vocaroo and VoiceThread make great options. Students appreciate the personal approach, and providing verbal feedback takes far less time than generating written comments. Also, consider using peer-to-peer review
with select activities to allow students to get supplemental feedback without adding to your workload.

4. **Refine your daily workflow:** Are you getting bogged down with e-mails? Watching deadlines zoom by? Putting your own health on the back burner? The start of a new semester is the perfect time to change your default pattern. We suggest making one or more of the following small changes next semester. Consider using a service that delivers e-mails a few times per day rather than trying to work through the persistent interruptions of new emails arriving in your inbox. Some apps will also turn off notifications on weekends or after hours. Use an electronic “to do” list like Todoist or Wunderlist to organize reminders and deadlines. Many of our nutrition clients find that using Google or Outlook calendar scheduling and reminders is a good way to prioritize a daily walk, meditation, or a quick stretch.

5. **Evaluate your food and fuel:** Food can drag you down or prop you up. Step away from your desk periodically for a snack, and be sure to choose one that is nourishing as well as invigorating. Good choices include a piece of dark chocolate; nuts and seeds (especially walnuts); berries; or foods with spicy, sour, or tangy flavors. Preliminary evidence even suggests that chocolate may be associated with cognitive enhancement (Scholey & Owen, 2013). (You can thank us later.) As nutritionists, one of the most common things we see is unhealthy or mindless snacking. Avoid snacking at your desk while you’re doing other things. Use your snack break to get outdoors or connect with your colleagues while you nourish yourself.

Self-care isn’t an all-or-nothing approach. Starting small is ideal. Pick one or two practices to implement tomorrow, and you’ll be on the road to a more sustainable work-life balance.

**Reference**


[http://doi.org/10.1111/nure.12065](http://doi.org/10.1111/nure.12065)
Untangling the Web of Student-Teacher Communication

Written By: Jennifer H. Waldeck, PhD, Associate Professor of communication studies at Chapman University in Orange County, CA. Presenter at the 2016 Teaching Professor Conference.

When I tell people that I study the role of communication in teaching and learning, the most common response is: “Isn’t communication just common sense? I’m an expert in what I teach; why do I need to worry about how I communicate?” In reality, communication is a learned verbal and nonverbal skill that all of us must continually refine. When we interact with our students purposefully, we maximize the chances that our content expertise will make a positive difference in terms of their learning.

We use a range of communication strategies for helping students learn. Although I would like to tell you that there is a clear list that says “do this” and “don’t do that,” communicating with students is not that straightforward. Being good at it requires a high level of communication competence—an awareness of what’s appropriate for the situation, the skills to perform that way, and the motivation to do so. Additionally, our effectiveness grows from a willingness to challenge some of our beliefs about what good teachers say and do.

Communicating with clarity

One type of communication is aimed at ensuring students’ attainment of academic goals related to our content (e.g., information acquisition, understanding, critical thinking). One way we accomplish these rhetorical instructional goals is by being as clear as possible. This includes strategically, clearly, and logically organizing material; communicating expectations; explaining concepts; giving examples and feedback; asking questions; and responding to students’ inquiries. Clarity is an important teacher communication behavior. However, there are some interesting paradoxes related to how we talk with students about content and course procedures.

Strategic ambiguity might be useful for promoting critical thinking.

For example, can we be too clear in how we communicate our expectations, course concepts, and assignment requirements? Two 2015 meta-analyses of the teacher clarity literature concluded that clarity accounts for just a moderate amount of student learning.
(Titsworth et al., 2005) Some degree of strategic ambiguity might be useful for promoting critical thinking and good discussions in class, and encouraging students to do more of what Maryellen Weimer calls the “heavy lifting” of learning. In contrast, teachers who unnecessarily repeat points and provide lengthy explanations of simple ideas might annoy students.

What do you think? How can you balance your clarity goals with your desire that students take responsibility for learning—and to avoid “spoon feeding” them your course?

Building positive relationships

A second set of communication behaviors that teachers use to help them build positive relationships with students. Relational messages show students we care about them and help us establish closeness. For example, research indicates that effective teachers use immediacy behaviors. They smile, make eye contact, move around the room, avoid standing behind podiums, gesture, call students by name, use personal examples, allow some off-task conversation and small talk, are appropriately funny, and encourage students to talk with them and one another. Further, good teachers confirm students. In many ways, we tell students we value them, their ideas, and their contributions.

When I speak to teachers about relational teaching goals and communication, I sometimes encounter resistance. “But they won’t respect me if I let them call me by my first name.” “I don’t have time for all of that; I have a lot of material to cover.” “I don’t care if they like me; I just want them to learn.” And that is where one of the most critical paradoxes of instructional communication emerges: In order to maximize students’ cognitive learning, a landmark study (Rodriguez et al., 1996) and numerous subsequent investigations indicated that we must motivate them, make them feel good about themselves and their abilities, promote their enjoyment of the learning process, and create positive attitudes about our class and the subject matter. The idea that students’ positive feelings and emotions about learning are nice, but an unnecessary aspect of the educational process, has been dispelled by a significant amount of research.

Are you comfortable communicating in personal ways with students? What do you say and do to promote healthy relationships with your students that lead to learning?

Certainly, there are times when we want to create distance (e.g., from a student who dominates classroom discussion). Sometimes we don’t want to confirm a student (e.g., because they’ve given a wrong answer or acted in a rude or uncivil way). Teacher/student closeness is considered inappropriate in some disciplines. The challenge then becomes dealing with these situations without compromising students’ appreciation for the class and subject. This is a critical fork in the road of teaching that we frequently encounter. Are you prepared to go the right direction?

The role of communication in learning is complex. Research gives us insight into the art
and science of effective instructional communication. To become great teachers, we must become great communicators who are aware and adaptive to students and situations. And, we should always question our assumptions about how to best teach our content and socially interact with students.

References


Prior Knowledge as an Unexpected Obstacle to Learning

Written By: Janet G. Hudson, PhD, Faculty Associate Director for Innovative Teaching at the University of South Carolina Center for Teaching Excellence. Presenter at the 2016 Teaching Professor Conference.

Prior knowledge is essential for learning because it helps us make sense of new ideas and information. But when that prior knowledge is incomplete, confused, or flawed, it can create barriers to learning. Consider the following scenarios.

Novice travelers’ experience: Awaiting the city bus in Tokyo, an American couple fumbled through their foreign currency to create various combinations of unfamiliar coins to pay the yet unknown fare. Their prior knowledge taught them that city buses require exact change upon entrance; moreover, they were aware that riders and drivers don’t patiently tolerate the uninitiated. Why wasn’t the fare posted? Were tickets purchased in advance? Their anxiety to discover the mysterious cost of this public transportation adventure rose as the bus approached.

Missing piece of expert local knowledge: Bus fares in Tokyo vary by distance traveled. The fare is paid upon exiting.

Novice student’s experience: “I took notes, studied them, and thought I did well on the history test until my professor wrote: ‘You misunderstand one of the most basic principles of this historical era. Plantation tobacco slavery was a defining characteristic of the southern Chesapeake colonies (Maryland and Virginia). Plantation slavery was NOT a feature of the northern economy as you indicated.’"

Student’s prior knowledge stumbling block: This student came of age in the 21st century, and Maryland is not commonly perceived as a southern state today. So if plantation tobacco slavery existed in Maryland, as her professor indicated, then apparently plantation slavery existed in “the North,” a conclusion she drew from unknowingly linking her 21st century understanding of Maryland’s regional identity with the expert’s content.

Guiding novice learners

New knowledge builds on existing knowledge, and this strongly agreed-upon principle is imbedded in our education system and culture. For example, algebra builds upon mastery of multiplication, and similarly, at the K-12 level, numerically ordered grades imply that mastery of the third grade precedes entry to fourth grade. Colleges design prerequi-
site courses to scaffold disciplinary expertise.

Pervasive agreement that new knowledge builds upon prior knowledge, however, rests on the unstated assumption that one’s prior knowledge is accurate and complete. Yet evidence abounds that this assumption is wildly optimistic if not frequently flawed. As the examples above illustrate, whether you are a novice with the Tokyo bus system or a novice in an introductory history course, your prior knowledge can become an obstacle rather than a conduit for new learning. Even with all the necessary prerequisites met, students commonly begin courses with inadequate prior knowledge or, more problematically, with prior knowledge that is confused and that includes misunderstandings, flawed thinking, and misplaced assumptions.

What’s an expert to do?

**Step 1: Diagnose**

For prior knowledge to accelerate rather than hinder learning, flawed thinking, misunderstandings, confusion, and misplaced assumptions MUST be diagnosed. Only when novices recognize their confusion can it be explored and reconsidered. This is easier said than done, however, because:

- Novices are often unaware of their own flawed thinking or misunderstanding.
- Novices who recognize their lack of understanding may be too confused to form questions that experts readily understand.
- Novices who risk expressing their confusion with inarticulate questions that vaguely reference this, that, and the thingamabob are commonly greeted with blank stares, rolled eyes, impatient gestures, or worse—public ridicule.
- Novices frequently bristle at new information or ideas that experts share, especially when these contradict novices’ understanding or challenge their worldviews, political identities, or life experiences. This in turn may lead novices, consciously or unconsciously, to resist or reject the ideas.

**Step 2: Construct an “anatomy of confusion”**

Rather than expecting novices to always take the initiative, lead with their confusion, and willingly make themselves vulnerable, as disciplinary experts we can strategically bring a sense of curiosity to novices’ perspectives. We can imagine their misunderstandings, errors, and flawed assumptions as evidence for analyzing and data for constructing our discipline’s “anatomy of confusion.”

How do we begin?
Gather data for your anatomy of confusion:

- Reflect on your teaching experiences in search of common misunderstandings.
- Speak with colleagues about patterns of confusion they’ve noticed.
- Interview advanced students who may recall recent breakthroughs and remember their earlier confusion.
- Brainstorm with novices to increase your insights into their “flawed” understanding of your expertise. (Remember, colleagues in other disciplines, family, and friends may be willing novices ready for experimentation.)

Conduct novice brainstorming exercises:

- Invite novices to brainstorm all the associations they make with a word, phrase, or core concept that is vital to your expertise. Note false associations and omitted ones.
- Invite novices to ask questions regarding a core concept you’ve identified from your discipline. The questions are your data, so look for imbedded assumptions and note vague references and missing vocabulary.

Classify your data. Common misunderstandings reveal that novices tend to:

- Apply familiar-word meanings when discipline-specific meanings are needed
- Extend analogies too far or too literally
- Apply generalizations erroneously to specific situations
- Assume that rules and forms that fit one context or discipline apply equally in a different context or discipline
- Miss crucial concepts

Finally, with the addition of self-assessments to link particular confusion with particular concepts or levels of mastery, an anatomy of confusion can become a valuable tool for constructing pathways for novices to follow away from arrays of misunderstandings toward improved and increased understanding.

Reference

Teaching Squares Bring Cross-Disciplinary Perspectives

Written By: Neil Haave, PhD, Associate Professor of biology at the University of Alberta. Presenter at the 2016 Teaching Professor Conference.

I regularly hear colleagues complaining that they never have time to discuss teaching, and I know this is true in my liberal arts and sciences campus at this large research university. We devote so much of our time to teaching students, preparing classes, grading student work, and doing research that there’s little time left to compare notes with our colleagues, even those next door. On those rare occasions when we do, it’s often a pleasant surprise. Interesting teaching strategies are being implemented all around us. When this happens to me I often think, “I wish I could come see how you do that!”

What we don’t seem to have are structures that facilitate these conversations and observations. Technology now makes possible international asynchronous conversations such as those on the Teaching Professor Blog. But we also need something that facilitates local, face-to-face conversations with others at our institution. At the Augustana Campus of the University of Alberta, I think we have found a solution: teaching squares.

Teaching squares build the instructional abilities of teaching faculty. They were first developed by Anne Wesley at St. Louis Community College and have been used by many North American universities and colleges. We introduced them here at the Augustana Campus in 2009, and they’ve been running during most terms since.

A teaching square consists of four faculty from different disciplines who visit each other’s classes within a two-to-three-week period.

A teaching square consists of four faculty from different disciplines who visit each other’s classes within a two-to-three-week period. After the classroom visits, the four gather around coffee or a meal to discuss the teaching observed. The intention of the square is not to criticize each other’s teaching. Rather, it’s to gather ideas on different teaching approaches that might be used in one’s own classes. It’s an opportunity for faculty to reflect on their own teaching in light of colleagues’ teaching examples. Could I do something like that? Would that approach work with the content I teach? I might be able to use that, but what would I need to change so that it better fits with my teaching style? Are my students ready for a strategy like that? It’s a constructive way to confront current teaching practices in light of some potential alternatives.
While I was associate dean of teaching from 2010 to 2013, the feedback I received from faculty who participated in the activity was positive. What they said was most helpful was simply having a structure that included time for discussion of teaching-related issues. Their exchanges usually started off with what they’d observed in each other’s classes but often segued into analysis of the issues being faced by all of them in their courses.

I also think teaching squares are effective because they involve cross-disciplinary collaboration. The views and perspective of those who teach different kinds of content can be very helpful in providing new perspectives on the content being taught. In 2011, the University of Alberta’s Festival of Teaching included a program where faculty could sign up and then visit different classes that had been opened for the festival. We had positive feedback about the opportunity to observe different teaching styles and strategies, but we also got constructive criticism that a valuable component was missing—the reflective conversation that typically follows in a formal teaching squares program. It’s not always easy to schedule the four faculty needed for a square, but it’s definitely worth the effort, given the value of these follow-up discussions.

Some participants have told us that they’d like to get evaluative feedback on their teaching. In the spirit of a teaching square, however, this cannot be one of its goals. The discussion of teaching needs to be free of evaluation and judgment. When exchanges become critical and personal, they can produce defensiveness and suspicion, and that would inhibit the open exchange of ideas and the free sharing of teaching strategies.

We continue to use teaching squares as part of our faculty development program at Augustana. I recommend the structure. If you can round up four colleagues, you can do a square on your own, or it might be something you could recommend to your teaching center or faculty development program.
A Practical Approach for Increasing Students’ In-Class Questions

Written By: Steve Snyder, Professor of humanities at Grand View University. Presenter at the 2016 Teaching Professor Conference.

Much has been written about creating natural critical learning environments in our classrooms, places where students feel free to pose stimulating questions and pursue interesting answers. But how much do we put students’ questions at the heart of our everyday teaching? The answer might be “not as much as we think.” A number of years ago I was frustrated by how seldom my students asked questions in class, even after I encouraged them to do so.

Why didn’t they take advantage of the most natural component of a critical learning environment? Was it shyness, lack of motivation, unpreparedness? After experimenting with various failed strategies to elicit more in-class questions, I began to suspect something else was happening. It struck me that my students more than likely didn’t know where to begin because—unlike their professors—they hadn’t spent years interrogating ideas. So the challenge for me was to nudge them from novices to something closer to advanced beginners.

**A useful starting place is to get students thinking about the kind of work they want their question to perform.**

There are many kinds of questions, of course (rhetorical, leading, insincere…). At issue here are those questions students could ask to improve their understanding of a subject and its relationships to other subjects. A question in this sense is simply a tool to support and promote learning, so perhaps a useful starting place is to get students thinking about the kind of work they want their question to perform.

Below [see end of article] is a list of questions grouped according to the kinds of knowledge-generating work needed to answer them. This list is by no means definitive. It was developed for students interrogating primary texts in an Introduction to Humanities course and a first-year honors seminar, but it could be adapted to other courses and disciplines. Its aim was to provide them models for designing their own questions.

In effect, this list mirrors the logic of Bloom’s taxonomy, but it reverse engineers Bloom’s critical abilities into question forms.

In class I’ve used these models to help students create questions about assigned read-
ings. Students either bring prewritten questions to class or I allow them take 10 minutes of class time to write out questions. They must ask questions on different levels of the hierarchy and identify the type of thinking required to formulate an answer. Absent some kind of pump-priming model to direct them, they tend to create lower level content-oriented questions: What does the author say on page 243?

Requiring them to ask questions emphasizing thinking skills raises the metacognitive bar. They must consider what they want to know and why. “What exactly does Socrates mean by the examined life?” (Definition). “If William James is right about habit, what does that say about our penal system?” (Extender).

I usually offer a few parameters as well:

- Avoid yes/no questions.
- Be specific in terms of ideas and passages (i.e., specify page numbers).
- Ask about the areas or ideas you struggled with and/or those that really aroused your curiosity.

The latter point is key. The best questions usually arise from a sincere questioner.

Even with some pump-priming, many of the questions students generate will be non-starters and that’s okay. Sometimes this happens because students are simply going through the motions of the exercise, but more often it’s because they aren’t experts and can’t always recognize non-starter questions. Indeed, it’s difficult for students to think like disciplinary experts, and it’s tempting for us to jump in and speed the process along. I have found that if I can be patient and remain quiet students will self-identify dead end questions more quickly than I expect.

The discovery of dead ends is in itself a powerful learning experience, one we can short circuit in our haste. More to the point, we have to work through the bad questions to find the wonderful, thought-provoking questions. And when a student asks a really great question, it’s always appropriate to put it on the board and spend some time celebrating it (even before you attempt to find an answer).

Celebrating wonderful questions and carving out class time for students to formulate, evaluate, and wrestle with their own questions won’t necessarily make them disciplinary experts, but it pushes them in that direction and it sends a clear message that this is a place where asking, pondering, and speculating are highly valued.
SUPPLEMENTAL

Prompts to Elevate Students’ Questioning Skills

How do we get students thinking about the kind of work they want their question to perform? Below is a list of questions grouped according to the kinds of knowledge-generating work needed to answer them. This list is by no means definitive. It was developed for students interrogating primary texts in an Introduction to Humanities course and a first-year honors seminar, but it could be adapted to other courses and disciplines. Its aim was to provide them models for designing their own questions.

Level One

Contextuals

• How was X (event, text, work, etc.) shaped by its time?
• Where did X originate and why?
• Who was the originator of X and what was he or she like?

Definitions and clarifications

• How do you define X (word, term, idea, etc.)?
• What does this passage, concept, etc., mean?
• What would be a specific, concrete example of X?

Analyzers

• What parts or features make up the whole and what does each part do?
• How do the parts contribute to the whole?
• How is X organized and why is it organized this way?

Level Two

Comparatives

• How is X the same as that?
• How is X different than that?
• How are these more or less similar?
• What is the opposite of X?

Causals

• What factors caused X to happen?
• Which of these factors is sufficient? Which contributing or probable?
• On what grounds can we eliminate possible causes or explanations?

Evaluatives

• What are the most important features of X?
• Why do you like or dislike X (or agree or disagree with this)?
• How strong is the case that X is correct?
• What criteria are best for judging X?
• What is the best order or priority for these things and why?
• What is the strongest argument against X?

Level Three

Counterfactuals

• How would X change if this happened?
• How would things be different if X had not happened?
• How would things be different if X happened to a greater (or lesser) degree?

Extenders (Synthesizers)

• How can we apply X to this set of circumstances?
• What can we predict if X is correct?
• What ideas should be added to X?
• What might happen if you added this to X?

Developed by Steve Snyder, professor of humanities at Grand View University
Have your students ever told you that your tests are too hard? Tricky? Unfair? Many of us have heard these or similar comments. The conundrum is that, in some circumstances, those students may be right. Assessing student learning is a big responsibility. The reason we report scores and assign grades is to communicate information about the extent of student learning. We use these indicators to judge whether students are prepared for more difficult work or ready to matriculate into majors or sit for certification exams. Ideally, scores and grades reflect a student’s learning of a particular body of content, content we intended them to learn. Assessments (e.g., tests, quizzes, projects, and presentations) that are haphazardly constructed, even if unintentionally, can result in scores and grades that misrepresent the true extent of students’ knowledge and leave students confused about what they should have been learning. Fortunately, in three easy steps, test blueprinting can better ensure that we are testing what we’re teaching.

Step 1: Align objectives, assessments, and learning opportunities.

Learning results from students’ engagement with course content, not from the content itself (Light, Cox, & Calkins, 2009). However, this is often not how we approach the planning of our courses. In our courses and lessons, we need to make sure that clear learning objectives drive the planning, that assessments are constructed to measure and provide evidence of the true extent to which students are meeting the objectives, and that, through the learning opportunities we provide students, they can engage with the content in ways that allow them to meet the objectives and demonstrate their learning. This is not a linear process—it is iterative, often messy, and shaped by contextual factors. Nonetheless, when alignment is a criterion for successful planning, we are more likely to be measuring what we’re teaching. We do have to start somewhere, and a good place to start is with learning objectives.
**Step 2: Write meaningful and assessable objectives.**

If objectives drive the assessments and learning opportunities that we create for students, then the objectives must be meaningful (Biggs, 2003) as well as specific and measurable. The objectives are where we establish expectations for student learning. If, for example, we want students to think critically, our objectives must reflect what we mean by critical thinking. What we sometimes lack is specific language. Taxonomies (e.g., Bloom’s Taxonomy, Anderson & Krathwohl, 2001; Fink’s Taxonomy of Significant Learning, 2013; Wiggins and McTighe’s Facets of Understanding, 2003; Biggs’ Structure of Observed Learning Outcomes, 2003) can be consulted to help craft the specific objectives to which we will teach.

We recommend crafting no more than 5–8 course learning objectives. The format of the objectives should follow this example: *Upon successful completion of this course, students will be able to evaluate theories through empirical evidence.*

**Step 3: Create test blueprints.**

Designers of any major high-stakes exam (e.g., SAT, GRE, NCLEX) have to be able to claim that it tests what it purports to test. One way they do this is by building a test blueprint, or table of specifications. A test blueprint is a document, matrix, or other kind of chart that maps each question on an assessment to its corresponding objective, theme, or topic. If it doesn’t map, it’s not included in the assessment. A completed map represents how the items of an entire assessment are weighted and distributed across objectives, themes, or topics as well as how they are distributed across other important dimensions (e.g., item difficulty or type of question). A test blueprint is, essentially, a tool to help align assessments with objectives.

Course instructors also need to be able to assert that assessments provide evidence of the extent to which students are meeting the established objectives. If the blueprint doesn’t represent the content that is being tested, adjustments should be made before administering the test. A test blueprint is easy to develop and flexible enough to adjust to just about any instructor’s needs.

Consider the template below. The left-hand column lists—for the relevant chunk of content—objectives, themes, and topics. Column heads can represent whatever “other” dimensions are important to you. For example, in a political science course you could map higher level versus lower level items. Or, in a statistics course, you could map question categories such as recall, skills, and conceptual understanding. Once the structure of your blueprint is established, (a) plot each item with the numbers in the cells representing the numbers of items in each of the intersecting categories; (b) total the rows and columns; and (c) analyze the table and make sure the test will well represent student learning, given the objectives and students’ learning opportunities for that content.
As you develop the “map” of your assessment, consider these questions: What does each column heading mean? For example, what does “higher level” versus “lower level” really mean? Do you know? Would students know? Would student learning be improved if you shared the blueprint in advance? And, ultimately, will this planned assessment represent what you taught, what you intend to test, and how you intend to test it?

References


Flipping Large Classes: Three Strategies to Engage Students

Written By: Barbi Honeycutt, PhD, Adjunct Assistant Professor in the Department of Leadership, Policy, Adult & Higher Education in the College of Education at North Carolina State University and Owner, FLIP It Consulting. Presenter at the 2016 Teaching Professor Conference.

“How can I flip a large class?”

I like this question because it’s not asking whether you can flip a large class, but rather what’s the best way to do it. Faculty who teach large classes are challenged not only by the sheer number of students but also by the physical space in the classroom. Having 100, 200, or 400+ students in class means teaching in large lecture halls with stadium seating and seats that are bolted to the floor. It’s not exactly the ideal space for collaboration and group discussions, so the types of flipped and active learning strategies you can use are more limited.

Often, faculty fall back on the “think, pair, share” format or use clicker questions to encourage student engagement. But there are other techniques we can deploy in these large classrooms to engage students and involve them in higher levels of critical thinking and analysis.

To start the conversation, here are three strategies that work well in large lecture halls because they don’t require students to sit in groups or move around the room. Each of these strategies provides a framework for generating discussion, which increases engagement and encourages students to analyze a variety of perspectives. And if you aren’t teaching to the masses, these strategies can be easily modified for any class size.

Flipped Strategy #1: Six Thinking Hats

“Six Thinking Hats” is an approach to guide and focus students’ thinking, expand their perspectives, and generate creative approaches to solving problems (de Bono, 1999). To
implement this strategy, present students with six different colored “hats” to wear as they analyze a situation. The color of the hat reflects the role or perspective you want students to take as they work through the problem: white (data, facts), red (feelings, emotions), yellow (positive view, benefits), black (caution, judgment), green (creativity, new ideas), and blue (summaries, decisions).

For large classrooms, you can assign a different colored hat to six different sections in the room. Students within each section can work in pairs or threes to analyze the problem based on the hat they are assigned. This strategy can also be designed as an individual learning activity. Provide worksheets or online tools for students to document their thinking related to the hat they are assigned.

Flipped Strategy #2: Paired Jigsaw

The “jigsaw” technique can be an effective way to engage students in large classes. Tewksbury (1995) describes, “In this technique, teams of students are assigned to investigate different aspects of the same problem/issue. Once teams have completed their assignments, members of each team are then dispersed among new groups and teach group members from other teams about what they have learned (322).” Depending on how many students you have, it may not be possible to form groups, but you can adapt this strategy and create a “paired” jigsaw. Pick a topic and assign two separate readings as pre-class work. Assign half the class Reading A and the other half of the class Reading B. Then ask students to come prepared to teach the most important points from their article to their partner. If you need more accountability, ask students to prepare a worksheet or outline that highlights for their partner the most important takeaways from their article.

During class, ask students to form pairs where one partner has completed Reading A and one partner has completed Reading B. Give students time to teach the main points of their article to their partner. If this is a new activity for your students, you may need to provide more structure to help them organize their ideas as they teach.

Flipped Strategy #3: Paired Jigsaw + Six Thinking Hats

Once you have introduced students to the paired jigsaw and six thinking hats activities, try combining them! Ask students to analyze their reading (Reading A or Reading B) from the perspective of one of the six hats. You can either assign the hat or let them choose which hat they want to wear as they prepare to teach their reading. Then, when they work in pairs, challenge students to see if they can guess which hat their partner is wearing as they analyze the reading. You can also ask students to re-read their article wearing a different colored hat and see if and how their perspectives change. Any of these strategies can then be used to continue conversations or start a class discussion.

Without too much modification, and a little upfront planning, these strategies can be
used in the large classroom setting to engage students in higher levels of critical thinking and analysis. These activities can also be designed as individual learning experiences if you want to mix things up and take a break from so many paired and small group tasks.

Teaching large classes is challenging, even without trying to get students involved. There’s more to manage, more to grade, and more to coordinate. But, by including these types of active learning strategies into your large class, you can create an engaging learning experience that allows students to hear from their peers and engage in critical thinking and analysis.

Reference


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