

CTE Today

A Newsletter for
Teachers at USMA

Center for Teaching Excellence

October 2006

"The very essence of the creative is its novelty, and hence we have no standard by which to judge it."

-Carl R. Rogers, On Becoming a Person.

Creativity in the Classroom, *Dr. Mark D. Evans, CTE Director*

Last month's excellent article by Dr. Sue Tandy, DPE, ("Using Peer-Constructed Resources as Educational Learning Devices – Learning Should Be Fun") provided a wonderful example of how small, **creative innovations** in the classroom can improve cadet learning. Think about creativity in your classroom. Does the USMA culture stimulate creativity? Do you believe that you can be creative within the bounds of your course or classroom interaction with cadets? Does your behavior as an instructor stimulate creativity in your cadets?

Sternberg & Lubart (1996) believe that creativity should be defined as the production of works that are both novel and appropriate. Novel or unique work is usually what one thinks of when considering a creative work, but the aspect of being appropriate is also part of their definition. Appropriate works are relevant to the issue at hand for teachers: cadet learning for example. Thus, your creativity as an instructor should be both novel and appropriate. Stern-

berg and Lubart (1996) further describe five essential attributes within us that enhance creativity: tolerance of ambiguity, perseverance, willingness to grow, openness to new experience, and willingness to take risks. Thus, those who are challenged (both cadets and faculty) often develop creative solutions to problems. Look for ways to appropriately challenge yourself as an instructor and for ways to appropriately challenge your cadets — creative solutions may be your reward!

References:

Sternberg, R.J. & Lubart, T. (1996). Investing in creativity. *American Psychologist*, 51(7), 677-688.

James, V., Lederman Gerard, R., & Vagt-Traore, B., (2004). Enhancing creativity in the classroom. In M. Orey (Ed.), *Emerging perspectives on learning, teaching, and technology*. Available Website: <http://www.coe.uga.edu/epltt/creativity.htm>

Creativity Workshop:

Are you inspiring your cadets to be creative or are you employing creative techniques in your classroom? If so, why not write a 500 word proposal: "How to Inspire and Implement Creativity in the Classroom" and submit it to the "Creativity Workshop"? Two Fellowships will be awarded to attend the Creativity Workshop in Florence, Italy, July 2007. Nine nights accommodation and conference fee included. Email your proposal to: submission@thecreativity-seminars.com. Deadline: Friday, December 1, 2006. Email submissions only.

For more information: <http://www.creatingandexploring.net/educatoraward.html>



Inside this issue:

Use of Individual Response Cards to Improve Classroom Interaction and Cadet-Centered Learning	2
Motivate Student Participation through a Relaxed Classroom Environment	3
CTE Advisory Committee	4
CTE Purpose and Mission	4
Teaching-Related References	4
Newsletter Submissions	4

Conferences

Teaching Professor Conference, May 18-20, 2007, Atlanta, GA
<http://www.teachingprofessor.com/>

Students in Transition, Nov. 3-5, 2006, St. Louis, MO
<http://www.sc.edu/fye/events/sit/index.html>

The First Year Experience, July 24-27, Toronto, Canada
<http://www.sc.edu/fye/events/international/index.html>

Creativity Workshop, July 13 - 22, 2007, Florence, Italy
<http://www.creatingandexploring.net/educatoraward.html>

Use of Individual Response Cards to Improve Classroom Interaction and Cadet-Centered Learning, *By MAJ Corey S. Gerving, Dept. of Physics*

As instructors we strive to provide an interactive, student-centered classroom to foster the maximum intellectual growth of our cadets. The biggest obstacle I had to overcome as an instructor in this developmental process was to define what “interactive” and “student-centered” meant. For those of you who have tried, you know it is no small task. I found the best way to determine if I had succeeded in my mission for a particular class was to ask myself the following question: “Would my class be any different *if the cadets weren’t there?*” If the answer to this question for my class was “No,” then I knew I had to change things. In the short space I have available I want to offer a couple of techniques I have used over the past year or so to move from an instructor-centered classroom to a cadet-centered classroom. These techniques will be presented in the context of a physics

“Would my class be any different if the cadets weren’t there?”

class, but can easily be applied across the academic disciplines.

Motivated by a seminar I attended in November of 2005, I employed *Peer Instruction* as a course director in the off-cycle of PH203 last spring (N~65). Under the right conditions, *Peer Instruction* takes advantage of peers explaining concepts to peers [1]. Encouraged by the results in the off-cycle course, I have implemented *Peer Instruction* to varying degrees in the main cycle of PH201 (N~900) and persuaded its implementation across the entire Core Physics Program (N~1000).

In my opinion, the key to the success last spring and the enabling tool for *Peer Instruction* was the use of the Individual Response Cards (IRCs), sometimes referred to as “clickers.” In January of 2006, we purchased two sets of Turning Technologies radio frequency response cards to use in conjunction with *Peer Instruction* slides. The IRCs guaranteed commitment to an answer by all cadets in the room and offered the security of anonymity. Each set

cost roughly \$1,200 and included the following: 20 IRCs, 1 USB receiver, and a registration code for the interactive slide authoring software called TurningPoint. The strength of the system we chose was the software which allows for extremely quick and easy development of slides in PowerPoint. The results are tabulated and displayed instantly on one slide. Other comparable response systems did not have this feature, see Figure 1.

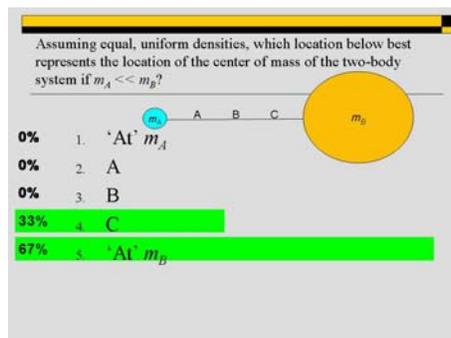


Figure 1- Sample Slide with Results

An instructor could make an interactive slide using TurningPoint in as few as thirty seconds. An on-the-fly question option is included where you can make a question during class for cadets to answer if the need arises. Such a feature and such ease cannot be found in any other software.

Cadet interaction and participation using the IRCs was phenomenal. Cadets would actively engage in discussion of key physics concepts and argue using their textbook as a reference in order to convince their classmates that they had selected the correct answer. As an instructor, I was available to provide guidance to the different groups of cadets in their discussions, but played a passive role in the learning while cadets actively sought answers to common physics questions.

I have commented several times how easy it is to author interactive questions using TurningPoint. Though authoring the questions is easy, I feel that I should give some attention to the pedagogical difficulty of developing the questions. Ordering of questions is critical to laying the cognitive building blocks for conceptual understanding and for building cadet scholastic confi-

dence. As an instructor, you can author some great individual concept questions that, if asked at the wrong time, will result in lower gains by the cadets. I have found that you can get two to three main points across in a 55-minute class. In my class development, I determine how I want the cadets to think about the material of the day. I then craft my main points and subordinate concept slides (usually three per main point) to lead them through that thought process. The design of questions to support a main point and the execution of the class is nicely depicted in Figure 2 from a great article by Ian Beatty [2].

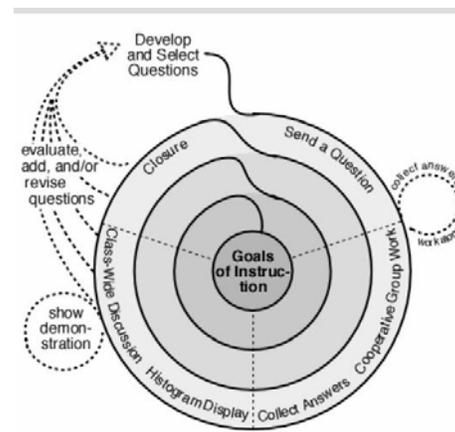


Figure 2: The Question Cycle

After careful development of my main points and my subordinate slides, I am ready to execute my class. On class days, pre-execution checks for the IRC system takes approximately two minutes. I begin the interactive sessions with administrative announcements and sometimes a discussion of important topics from the reading. After that, I require each cadet to read the question and make a selection from the options listed. I think it is beneficial to not read the question to them. This forces each cadet to actively assimilate what the question is trying to ask and formulate an answer based on their own thought process. I then reveal the results of the initial polling session and allow a few minutes for discussion. I sometimes offer what we call “stimulators” before I turn them loose to discuss the question. Stimulators include, but are not limited to, textbook page references, videos, computer simulations, dem-

Motivate Student Participation through a Relaxed Classroom Environment, *by CPT Ramit Ring, Dept. of English*

“What do I want to say?” and “What kind of atmosphere do I want to establish?” are two of the biggest questions I faced when trying to decide what kind of teaching style I wanted in my classroom. I’m not talking about the first day, when you do the introductions and address the rules of the classroom. Nor I am talking about establishing the academic rules – the student is late if he misses the beginning of class accountability formation, papers will be dropped letter grades based upon how late they are submitted, students are responsible for making up missed work and being prepared for class, etc. What I am talking about is the type of interaction I want between me, as the instructor, and my students, who are all plebes and new to the Academy’s academic environment.

“I bring a hacky-sack ball to class and, yes, we throw it around.”

Plebes enter the classroom filled with regulations for walking, talking, thinking, etc. (After seven weeks of Beast, many no longer believe we expect them to think, or that we encourage creative thinking.) So, while I expect my students to maintain a professional demeanor, I do encourage an atmosphere in which they can explore the topics presented in class, and go beyond their initial automatic response. In order to create this atmosphere, I’ve tried several approaches, but here are three I am currently using, and which seem to work. These approaches work best for a class where thinking critically is the desired outcome.

A tip I borrowed from my sister, who teaches fifth grade, which works in establishing a relaxed atmosphere conducive to an open exchange of ideas is to get students to see each other as individuals with something to share. Moreover, they must understand that their peers can provide useful input to their own ideas. When we are covering a lot of the mandatory reading and rules of grammar and argument formation, or working on practical exercises, I bring a hacky-sack ball to class and, yes, we throw it around. Tossing around the ball serves two purposes: first, my students must call

each other by first name before throwing it at a fellow student (building working relationships with each other); secondly, most cadets will stay awake, either because they are interested in answering a question and therefore possessing the ball, or because they fear falling asleep and being a fun target for another classmate. Is this a “trick,” a game designed to entertain the cadets? Some, myself included, would say yes, but it works precisely because it is something different from the rest of the day. My students ask if I will bring out the hacky-sack, knowing it means we will work on class reading materials (generally not the most interesting topics, as they frequently cover English grammar and punctuation rules). When I get these requests, it means that my students are prepared to engage in class, if they are volunteering to play a game that demands discussion participation.

Another approach, is to present examples and situations that are not necessarily military related. Again, after seven weeks of Beast, not to mention duties, formations, PME2 classes, and other briefings on life at the Academy, my students are on zombie mode every time I assign a military-theme essay. And, too often, they are afraid to speak originally, because it might not be what I as a military instructor want to see, or because it might be counter to what West Point teaches them. So, rather than focus every writing assignment or scenario on a military theme, I have incorporated fairy tales and fables into my classroom. Not every student appreciates having to think “outside the box” and entertain new ideas; some are content to go with the flow and write what about what is familiar. However, most of my students truly do enjoy new concepts and approaches. For example, in my current block of instruction, students have to determine a cause-and-effect relationship from a Russian fable, and then have to find a resembling relationship in a current event. This exercise forces students to make relationship correlations they ordinarily would not think to look for, while it also enforces the rules of argument structuring and proper grammar usage an English class, as well as any class which assigns papers, follows.

Of the three approaches to achieving a relaxed, dialogue-oriented class, breaking

away from the syllabus is the one I use least, but it does occasionally help, particularly after a “Thayer Week.” I do expect my students to read the assignments from the published syllabus and be prepared for class. But every once in a while, rather than using a PowerPoint slideshow, I allow the class to work out ideas by discussing and arguing criteria and definitions, as well as reasoning. Since the intent of my class is to not only make sure that my students are properly grounded in grammar and punctuation, but that they can also present a logical, well-thought out argument in a convincing manner, sometimes dialogue is the best vehicle for practical application. Rather than focusing on the minutia of writing, I steer my cadets into explaining their reasoning, the criteria upon which they base their assumptions, and the definitions they apply to key terms. This approach allows my students to invest something of themselves into what they are arguing, but also allows them to see how their ideas and logic are accepted



and interpreted by their peers. The result is that my students are still working on course material, but without realizing it, and they are more interested in class and therefore more likely to participate and learn in the classroom.

Some of the techniques that I have presented work better based upon the instructor’s classroom demeanor and the intent of the class itself. Since my goal is to encourage my students to argue logically and beyond the constraints of the Army, the techniques and approaches I have used thus far to encourage this atmosphere of thinking, reasoning, and presentation of arguments appear to be working. Of course, I won’t know this for sure until after the TEE grades are calculated, but what I do know is that the majority of my students come to class with ideas and with a desire to participate in class and share those ideas.

Use of Individual Response Cards – continued from p. 2

-onstrations, and preset chalk-board notes. I patrol the room and provide additional stimulators to groups having trouble and also ensure the topic of conversation is the question at hand, not what is happening in the barracks. After the discussion reaches a natural low-point, I re-poll the question to see if the original correct cadets could convince incorrect cadets of the correct answer. I then have a cadet with the correct answer volunteer to explain his or her thought process. Closure is very important. Some cadets can get the correct answer for the wrong reason, so it is important that everyone in the room hears the correct explanation before moving on. This continues until all main points are discussed.

With *Peer Instruction* and IRCs, I ask each class the same questions in the same order, but the result of the interaction with the class will be different every time. In that regard, I feel the IRCs make for an ideal interactive, cadet-centered classroom.

References:

1. Mazur, E. (1997). *Peer Instruction: A User's Manual*. Upper Saddle River, NJ: Prentice Hall.
2. Beatty, I. (2004) EDUCAUSE Center for Applied Research Bulletin, Vol 2004, Issue 3. *Transforming Student Learning with Classroom Communication Systems*. Boulder, CO: EDUCAUSE.

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Advanced Technology Classroom

Laboratory (ATCL), 120 Thayer Hall

CTE Purpose and Mission

The purpose of the CTE is to enhance cadet intellectual development through high quality faculty development programs.

The mission of the CTE is to:

- ... provide consultation and resources to faculty
- ... conduct educational research & development
- ... serve as a conduit for educational information

Newsletter Submissions

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Submissions to *CTE Today* are welcome and encouraged. When submitting, please keep these guidelines in mind:

...We are interested in a wide range of teaching and learning topics.

...We are interested in innovative strategies, techniques, and approaches that facilitate learning

...We are interested in reflective analyses of educational issues of concern.

...Write with the understanding that your audience includes faculty in a wide variety of disciplines and in a number of different departments.

...What you describe must be relevant to a significant proportion of USMA faculty.

...Write directly to the audience, remembering that this is a newsletter, not a journal publication.

...Keep the article short; generally between 1 and 3 double-spaced pages.

...If you'd like some initial feedback on a topic you're considering, you're welcome to share it electronically with the editor.

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TEACHING-RELATED REFERENCES FOR ALL FACULTY TO CONSIDER

Angelo, T. A., and Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers*, Jossey-Bass, San Francisco.

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