



The Graduate Revisited: Not ‘Plastics’ but ‘Metacognition’

By Barbara Mezeske, Hope College, MI -
mezeske@hope.edu

In an iconic scene from the 1967 film *The Graduate*, a successful businessman whispers in the ear of newly graduated Dustin Hoffman the one word which holds the key to everything: “plastics.”

For teachers today, that word is “metacognition.”

Metacognition is thinking about thinking. It’s the ability to reflect on how we learn and to adjust our learning behaviors so that they are as effective as possible.

Any classroom activity—from a paper to a test to a discussion—can be made metacognitive, if we ask students to think about how they approached the activity, whether their approach was successful, and how they might adjust the approach to learn better next time.

Let’s say you assign a research paper that requires students to turn in a research question, a preliminary list of sources, the introduction section, and a final draft. Such an assignment sequence already honors the idea of the writing/research process. How might you make it metacognitive? Add specific reflective assignments along the way. For the source list, for example, you could ask students to write a page describing their research process: where did they begin to look, where did they go next, who gave them suggestions or advice (and was that advice helpful), what was frustrating, what was unexpected. The overall question is, “What did you learn about finding sources?” Note that this is not the same as asking, “What information did you discover?” The first question is metacognitive: It asks students

to think about their learning.

When the final draft is submitted, you might ask the students to reflect on the entire assignment. You could use prompts like these: “What advice would you offer students when they begin this assignment next year?” “What skills did you develop or improve as a result of doing this assignment?” “What skills did you wish you had as you worked on this assignment?” Students can answer questions like these individually, in groups, or in a class discussion. They can offer answers orally or in writing.

Metacognitive activities pose the big learning questions: Why is this valuable? How does this benefit me? How does this information fit into my schema or framework of knowledge? Because there are no right or wrong answers to metacognitive questions, they cannot be graded or evaluated like knowledge-based tests. Students can be given credit for doing them or for the depth of their analysis.

Metacognitive reflections reveal much to teachers about how assignments and assessments impact students’ efforts to learn. Good teaching practice requires us to have metacognitive goals in mind when we design our courses. You don’t (or shouldn’t) assign a paper or test just “because.” Each assignment should be designed to further some skill or understanding. A literature review, for example, requires students to locate sources and to discriminate between the most and least valuable. It requires the ability to summarize and paraphrase, and to synthesize ideas from a variety of sources. A problem-based test or paper requires the application of factual knowledge plus a process for relating that knowledge to a situation.

Metacognitive moments in a course can also occur spontaneously. Someday, interrupt whatever you’re doing and ask the why question: “Why are we reading about Semonides’ view of women in the 7th century BCE? How does Semonides contribute to the goals of this course?” The ensuing discussion will take you and your students beyond what you have planned for the day, but it will tell you and the students about their thinking.

The businessman in *The Graduate* continued his advice: “There’s a great future in plastics. Think about it. Will you think about it?”

It’s worth thinking about metacognition. 🍎

Subscriber Survey

The editors of *The Teaching Professor* would like to know what you think. Please take the short subscriber survey at www.magnapubs.com/tpsurvey

In This Issue

Grading: Alternative Approaches	2
Don’t Waste the First Day	3
Could We Hear from Somebody Else, Please?	3
Uses for Participation	4
An Analysis of PowerPoint-Based Lectures	5
How Many Tests?	6

**Editor**

Maryellen Weimer, Ph.D.
E-mail: grg@psu.edu

Magna Editor

Rob Kelly
robkelly@magnapubs.com

President

William Haight
whaight@magnapubs.com

Publisher

David Burns
dburns@magnapubs.com

Creative Services Manager

Mark Manghera

Art Director

Deb Lovelien

Customer Service Manager

Mark Beyer

For subscription information, contact:

Customer Service: 800-433-0499
E-mail: custserv@magnapubs.com
Website: www.magnapubs.com

Submissions to *The Teaching Professor* are welcome. When submitting, please keep these guidelines in mind:

- We are interested in a wide range of teaching-learning topics.
- We are interested in innovative strategies, techniques, and approaches that facilitate learning and 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 institutional settings; i.e., what you describe must be relevant to a significant proportion of our audience.
- Write directly to the audience, remembering that this is a newsLETTER.
- Keep the article short; generally between 2 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.

The Teaching Professor (ISSN 0892-2209) is published 10 times per year by Magna Publications Inc., 2718 Dryden Drive, Madison, WI 53704. Phone 800-433-0499 or 608-246-3590. Email: custserv@magnapubs.com. Fax: 608-246-3597. Website: www.magnapubs.com. One-year subscription: \$89 (Multiple print subscriptions and Group Online Subscriptions are available.) Photocopying or other reproduction in whole or in part without written permission is prohibited. POSTMASTER: Send change of address to *The Teaching Professor*, 2718 Dryden Drive, Madison, WI 53704. Copyright ©2009, Magna Publications Inc.

To order back issues (\$20 each) or for more information about multiple print subscription discounts and Group Online Subscriptions, call Customer Service at 800-433-0499.

Authorization to photocopy items for internal or personal use of specific clients is granted by *The Teaching Professor* for users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that \$1.00 per page is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923; Phone 978-750-8400; www.copyright.com. For those organizations that have been granted a photocopy license by CCC, a separate system of payment has been arranged.

Grading: Alternative Approaches

Students are very motivated by grades—We all know that. For that reason, it's useful to consider alternative approaches that might affect not just the motivation to get the grade, but the motivation to learn and develop important skills. Here are highlights from two articles that propose these kinds of intriguing alterations.

Math professor Vaden-Goad thought students might be more motivated to study and better able to succeed in introductory math courses if he allowed them to replace early grades with higher ones received subsequently. In one of his courses, students had quizzes every two weeks and a test every six weeks. If the test score was higher than scores on the quizzes, the test score could replace the quiz scores. In another course, students had four exams and a cumulative final. If a student's score on the relevant section of the final was higher than the test score, that section score on the final would replace the previous test score. After using a statistical analysis that teased out how much of the achievement gain was due to the approach as opposed to its positive effect on overall course grades, Vaden-Goad found the effect on achievement was positive but small. However, the effect on course retention was much more dramatic. In the replacement sections, more than 90 percent of the students completed the course, compared with less than 70 percent in the traditionally graded sections.

Vaden-Goad points out that this system does not directly deal with many of the self-defeating attitudes and behaviors that plague students in math courses, especially because this approach delays closure. Students may do poorly on an exam or quiz and they must wait and see if they can improve the outcome. Vaden-Goad says the value of the strategy is that it keeps students in the course and lets the instructor tackle negative attitudes and self-defeating study patterns.

In a marketing course, students participated in what the authors call a group-based assessment. Students were placed

in groups by the instructor and were tasked to propose solutions to two different case studies. After writing their reports, the groups submitted them to the instructor for grading. During the next class session, based on those assessments, the instructor matched groups so that groups with a better report were linked with groups with a less impressive report. Using a grading rubric, the groups assessed each other's reports. At the end of the session, groups were given the instructor's feedback so they could benchmark their assessments against it. They were allowed to modify their feedback to the other group. In the next class session, each group received their case report with the instructor and group feedback. Based on that feedback, the groups were allowed to modify their reports and resubmit them for final grading.

These faculty researchers hypothesized that a number of potential positive outcomes would accrue from this peer assessment experience, including increases in autonomy, intrinsic motivation, perceived competence, and actual performance in the course. Pre- and posttest data as well as survey results confirmed all their hypotheses. In addition they believe that involving students in the assessment process develops a number of important professional skills.

Both of these approaches are noteworthy for the way they seek to move students beyond just getting a grade. Both tackle attitudes that can prevent or impede learning, and both provide the opportunity to develop skills that will help with learning in other courses as well as in professional contexts.

References: Vaden-Goad, R.E. (2009). Leveraging summative assessment for formative purposes. *College Teaching*, 57 (3), 153-155.

Bicen, P. and Laverie, D.A. (2009). Group-based assessment as a dynamic approach to marketing education. *Journal of Marketing Education*, 31 (2), 96-108. 🍀

Don't Waste the First Day

By Kevin Brown, Lee University, TN
kevinbrown@leeuniversity.edu

Despite the fact that numerous articles have been written on the importance of the first day, too many of us still use it to do little more than go over the syllabus and review basic guidelines for the course. This year I decided to try a different approach, and the results were much more dramatic than I expected. I taught real material on the first day. Despite that, there have been fewer questions about course policies, with some students actually referencing them without even a mention from me. Let me explain how I achieved these results.

On the first day (I used this approach in all my courses), I spent the majority of the time teaching content that related to the overall ideas of the course. Thus, in freshman composition, a course that focuses on experiential learning, I had the students go outside and experience a brief period of blindness. They took turns taping cotton balls over their eyes and leading each other around. We then analyzed the experience and talked about how one might craft a thesis to describe what happened. In a Western literature class, I introduced the major ideas of the Enlightenment and talked about how the interplay of reason and emotion would reoccur throughout the course.

Only after this exposure to course content did I give students a copy of the syl-

labus. Rather than going through it in detail, I told students that they were perfectly capable of reading it. I think we should start assuming that students ranging from developmental courses to upper-division major classes can read and understand a syllabus. Rather than treating the syllabus as something special, I decided to handle it as another reading assignment.

To prepare students for this reading assignment, I did a brief presentation (I used PowerPoint this year, which I almost never use) on the most important aspects of the syllabus: why students are taking the course, how to get in touch with me, our university's mission statement, academic support for those with disabilities, how to access the online readings, and the overall structure of the class. I limited the presentation to 10 minutes. I have even begun to wonder if I could skip handing out the syllabus altogether and simply have students print it off themselves and read it before coming to the first day of class.

On the second day, I had students pick up note cards as they arrived for class. I asked them to write on the card any questions they had about the syllabus. In one class of just over 30 students, I answered fewer than five questions, and it took less than five minutes. Even in my largest class, which had the most questions, I was still able to respond in less than 10 minutes. Thus, my presentation of the syl-

labus took 15 minutes, at best, as opposed to the 40 to 50 minutes it used to take.

I also used bonus questions taken from the syllabus on my reading quizzes. This makes it clear to students who have not read the syllabus that they are losing out on extra points. I have considered giving a quiz solely on the syllabus, as I have heard some professors do, but that seems a bit petty to me. I can see, though, how that approach reinforces the idea of treating the syllabus as class material, just like any other reading assignment.

In the past few weeks since the semester started, I have had more students reference policies from the syllabus than I usually have in an entire semester. Students know how many points I deduct for late papers, and two students in one class wanted to discuss our school's mission statement. They asked if I believed we are actually trying to live it out (we are a religious institution), something that has never happened in my eight years of teaching here.

Rather than wasting that all-important first day going over material students can read on their own, I recommend we begin by introducing students to ideas from the course. Almost all of us complain about running out of time by the end of the semester, but a better beginning can help us reclaim at least one day of it, if we use it wisely. ♥

Could We Hear from Somebody Else, Please?

By Elayne Shapiro, University of Portland,
OR - shapiro@up.edu

Generating participation in a large class discussion is fraught with teaching land mines. We can call on people who raise their hands, but too often it is always the same people. We can ask to hear from someone else and risk offending those who have been volunteering, so that there are even fewer hands. We can call on people

randomly and risk embarrassing those who aren't prepared or don't understand. Maybe that will motivate them to prepare, or it may just be reflected in our teaching evaluations. I'd like to share an exercise that broadens class participation and offers a way around these potential risks.

The exercise originated as the children's game where one person starts a story, stops wherever he wants, and the next person picks up the story line. In col-

lege classrooms the story students pass to one another might be an explanation of a historical event, description of a physiological process, or the suggested solution to a case study. In my course, it revolved around conceptual elements in a theory. Let me explain how I used the exercise.

During the first half of the session, I lectured about the concept "Face Theory."

PAGE 4 ◀

Uses for Participation

Participation is one of those workhorse instructional strategies—easy to use, straightforward, expected, and often quite successful at accomplishing a number of learning goals. It's good to remind ourselves of its many different uses.

- **Participation adds interest**—It's hard to maintain students' focus and attention when all they hear is the professor talking. It helps to hear another voice, or answer, or another point of view.
- **Participation engages students**—A good question can pique their interest, make them wonder why, get them to think, and motivate them to make connections with the content. This benefit is magnified when teachers play a bit with the question, when they repeat it, write it on the board, and don't call on the first hand they see.
- **Participation provides the teacher feedback**—When students answer or try to explain, teachers can see the extent of their understanding. They can correct (or help the students correct) what the students haven't got right or don't see quite clearly.
- **Participation provides the students feedback**—When teachers ask questions or otherwise seek student input over a topic, they are letting students

know something about the importance of certain ideas and information.

- **Participation can be used to promote preparation**—If an instructor regularly calls on students and asks questions about assigned reading or what's in their notes from the previous class session, that can get students coming to class prepared.
- **Participation can be used to control what's happening in class**—If a student is dozing off, texting, quietly chatting, or otherwise not attending to what's happening, that student can be called on or the student next to the offender can be asked to respond.
- **Participation can be used to balance who's contributing in class and how much**—In the vast majority of cases, it is the teacher who selects the participant. If teachers will wait patiently and not always select the same student, if they look expectantly to others and confirm verbally and nonverbally the value of hearing from different people, they can influence who speaks and how much. Participation even helps teachers control how much they talk.
- **Participation encourages dialogue among and between students**—Students can be asked to comment on what another student has said. A ques-

tion can be asked and students can be invited to discuss possible answers with each other before the public discussion.

- **Participation can be used to develop important speaking skills**—In many professional contexts, people need to be able to speak up in a group. They may need to offer information, ask questions, or argue for a different solution. People don't learn to speak up in a group by reading about how to do it—it's one of those skills best developed with practice. And it's one of those skills that develops better with feedback.
- **Participation gives students the opportunity to practice using the language of the discipline**—Most faculty have forgotten how much of the language in their field is new, different, and difficult for students. Participation gives students the chance to practice using a different vocabulary.

I was talking with a colleague about these uses for participation, and he pointed out that we don't often use participation to ask students the questions we are trying to answer. I wonder if students might be more interested in participation if we did. ♥

COULD WE HEAR

FROM PAGE 3

Next, I divided the class into thirds and told them they were going to be watching one of three film clips. Each group was assigned a different film vignette. All the groups were to use what they saw on their film clip to discuss these three issues.

1. How do positive and negative face function for each character?
2. Using face-saving goals (save own face, save other's face, damage own face, damage other's face), describe what happened.

3. Identify examples of resisting intimidation, refusing to step back, or suppressing conflict for harmony's sake vignette.

After the clip, one group member began by answering the first question. This first person could stop at any time. The next person in the row picked up where the first group member had left off. Again, that group member could say as little or as much as she wished about the application of the theory to the vignette. Each group member could modify or amplify what the person before him or her had said, or the new speaker

could move on to another element of the theory.

Students seemed to gauge how much was left to be covered and how many students still had to speak, resulting in most of the students in the group contributing to the conversation. The atmosphere was light, and students were highly attentive, wondering when the cutoff would come and how the next person would pick up the thread.

In sum, the exercise provided an opportunity to review and apply conceptual material. It resulted in most of the

PAGE 5 ♥

An Analysis of PowerPoint-Based Lectures

In many classrooms, PowerPoint slides have replaced the use of overhead projectors and the black (green or white) board. But despite their popularity, they aren't used by all instructors. In fact, in a recent study of business faculty members, almost 33 percent of the respondents said that they never used PowerPoint slides. Believe it or not, that was the most common response given. However, just over 40 percent of the respondents said that they always or frequently used PowerPoint.

The quantitative and qualitative analysis of PowerPoint use in business courses described in the article referenced below begins with an excellent review of the literature. The use of PowerPoint in college classrooms has been studied but with mixed results. PowerPoint does help structure content. It can offer visual representations of complex content; efficiently share diagrammatic information; and add interest with additions of clip art, color, and other design features. However, PowerPoint has been shown to make students more likely to skip class—this is true when the slides are available before/after class via some course management software. Students tend to take fewer notes when the slides are available. If students don't have access to the slides, they copy the slides verbatim without adding elaborations or putting ideas into their own words. Other studies have shown that students rely on the slides when they are preparing for exams. They spend more time with slides and less time actually reading their textbooks. Finally some of the research is critical of the ways faculty use PowerPoint. One set of researchers cited in the article wrote that “PowerPoint presentations too often resemble a school play—very loud, very slow and very simple.” (p. 247)

In this study, which included a survey of 230 business students in 14 different courses, the researchers found that student perceptions of the effectiveness of PowerPoint very much depended on the type of class. They rated its overall effec-

tiveness highly in management courses and significantly lower in accounting courses. The researchers think that makes sense. PowerPoint is less adaptable to the demands of teaching quantitative content where teachers often model the problem-solving process.

In an interesting qualitative component of this research, another cohort of students was asked to share what they thought was good about faculty using PowerPoint in courses and what they thought was bad. The most frequently cited positive attributes were how PowerPoint can organize and structure course content and how it can add relevant graphs and other visual material. As for what these students thought was bad, the most common answer was the professor simply reading the slide word for word without translating, paraphrasing, or elaborating on the content. Interestingly, they also thought it was “bad” when the PowerPoints were available electronically, because then they had little motivation to take notes. Kudos to these students for recognizing the value of taking notes!

The article concludes with nine tips for using PowerPoint and making the slides an effective supplement to learning. Among that collection of tips are these:

- Carefully monitor how much information ends up getting included on the slide. The article's authors recommend no more than five bullet points. What's on the slide should serve to cue the instructor as to the next content that needs to be explained and elaborated.
- Don't go overboard with the number of slides. Too many can overwhelm students. “An instructor must have a good

reason for showing each slide.” (p. 250)

- “Do not let the PPT [PowerPoint] slides become the lecture. The slides should be an aid to the lecture but not the lecture itself.” (p. 250)

Elsewhere in the article they caution against being “lured by irrelevant bells and whistles or gaudy color combinations for slide text and background.” (p. 249) Too much clip art and animation and too many sound effects and cartoons distract students and compromise the potential of PowerPoint slides to promote learning.

Reference: Burke, L.A., James, K., and Ahmadi, M. (2009). Effectiveness of PowerPoint-based lectures across different business disciplines: An investigation and implications. *Journal of Education for Business*, 84 (4), 246-251. 🍀

COULD WE HEAR

FROM PAGE 4

class participating without me having to censure students who typically dominate, by my pleading for other participants. Students did not find the activity threatening—they were in control of how much they said. I was so pleased with how the activity went, I promptly decided to share the details in this short piece. 🍀

Online Seminar Call for Proposals

Magna Publications is accepting proposals for its online seminar series. For more information on how our online seminars work, visit www.magnapubs.com/calendar/index-cat-type.html.

To submit a proposal, visit www.magnapubs.com/mos/proposal.html.

How Many Tests?

Most college teachers assume that more tests are better than a few. Why? What caused us to decide on three or four unit tests followed by a final? Is there evidence that students don't do as well in courses where there are only a midterm and a final? Why do we think that more tests might be better? And what do we mean by better? Higher grades? More learning?

In the article referenced below, authors True Kuo and Albert Simon review the literature on test frequency, and surprisingly, it is extensive. They rely heavily on a 1991 meta-analysis that compared the results of 40 studies analyzing how test frequency impacted student learning as measured by a cumulative final or standardized exam. The results (reported in the meta-analysis and in more recent research) are definitely mixed. In the meta-analysis, 13 of the 40 studies showed a moderate benefit to student learning for frequent as opposed to less frequent or no testing prior to the final. That means in the majority of the studies, no effect or a nonsignificant one was reported.

In addition to this rather surprising overall finding, there were other results of interest. When the results indicated a positive effect of frequent tests, the "student learning outcome ... did not correlate with test frequency in a linear fashion." (p. 157)

This means that if two tests were beneficial, four tests were not twice as beneficial. "In other words, the test frequency effect diminishes as the absolute number of section tests increases." (p. 157)

Then there's the finding that when more tests and quizzes result in higher scores—scores on weekly exams tend to be higher than those on monthly exams, which makes sense because there is less material to study for each test—this improved performance on the more frequent tests did not result in better performance on the cumulative final.

Another finding relates to the role feedback plays in improving exam performance. Students learn more (as measured by exam scores) when each test is followed by a debrief session that focuses on their mastery of material missed on the exam. Authors Kuo and Simon say it is reasonable to hypothesize "that proper feedback and/or instruction has to accompany each test in order for the frequent testing to be effective in improving learning outcomes." (p. 158)

Other evidence suggests that the test format needs to remain consistent throughout the course. The test frequency benefit is diminished when an instructor uses one kind of question and format on exams given during the course and another kind of question and format on the

final.

One of the more consistent findings emerging out of this research is that student attitudes are more positive toward the course and instructor when they are given frequent exams. More tests and quizzes result in better attendance in class, and students find the exam experience less stressful when it occurs more regularly.

It is amazing how many aspects of instructional practice are influenced by what other faculty are doing, as opposed to what emerges from the research. In the case of test frequency, because research results are mixed, instructors should look at what's happening in their individual courses. Are students doing better on the final when there are two midcourse tests or when there are four? Certainly there are some variables that need to be considered. One class may just contain a lot better students than another, but over several sections, a trend may emerge. If nothing else, the research should motivate us to examine our assumptions about testing frequency and explore whether the premises on which they rest are valid.

Reference: Kuo, T., and Simon, A. (2009). How many tests do we really need? *College Teaching*, 57 (3), 156-160. 🍀

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION (required by 39 U.S.C.3685 - (1) The Teaching Professor. (2) Pub.no.0892-2209. (3) Filing Date: 09/30/09. (4) Issue Frequency: Monthly except July and September. (5) Issues Published annually: 10. (6) Annual Subscription Price: \$89.00. (7) Office of Publication: Magna Publications, Inc., 2718 Dryden Drive, Madison, Dane County, WI 53704-3086, Contact person: Colleen Olsen, (608) 227-8124. (8) General Business Office: same. (9) Publisher: David Burns; Magna Address same. Editor: Maryellen Weimer, Ph.D.; Managing Editor: Rob Kelly; Address same. (10) Owner: Magna Publications, Inc. (William H. Haight, Nancy K. Haight); Address: same. (11) Known bondholders, etc.: N/A. (14) Issue Date for Circulation Data Below: August/September 2009. (15) Extent and Nature of Circulation A. Total

Number of Copies: 5,204 avg. last 12 months, 4,400 copies of single issues. B. Paid and/or Requested Circulation: (1) Paid/Requested Outside County: 3,194 avg. last 12 months; 2,858 copies of single issue; (2) Paid In-County Subscriptions: 2 avg. last 12 months; 3 copies of single issue; (3) Sales through Dealers and Carriers, etc.: 1,237 avg. last 12 months; 749 copies of single issue. (4) Other Classes Mailed Through USPS: 292 avg. last 12 months, 247 copies of single issue. (C) Total Paid Distribution: 4,726 avg. last 12 months, 3,857 copies of single issue. (D) Free Distribution By Mail (1) Outside-County: 21 avg. last 12 months, 37 of single issue. (2) In-County: 1 avg. last 12 months, 0 copies of single issue. (3) Other Classes Mailed Through the USPS: 3 avg. last 12 months, 0 copies of single issue. (4) Free Distribution Outside the Mail (carriers or other means): 2 avg. last 12 months, 1 copies of single issues. (E) Total Free or

Nominal Rate Distribution (15D and E): 26 avg. last 12 months, 38 single issues. (F) Total Distribution (15C and E): 4,752 avg. last 12 months, 3,895 copies of single issue. (G) Copies Not Distributed: 452 avg. last 12 months, 505 copies of single issue. (H) Total (15F and G): 5,204 avg. last 12 months, 4,400 copies of single issue. (I) Percent Paid and/or Requested Circulation: 99.5% avg. last 12 months, 99.0% single issue. (17) I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties). /s/ David Burns, 9/30/09