

Adapting the one-minute paper for active learning.

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Date: Jun 22, 2007

Words: 3005

Publication: Academic Exchange Quarterly

ISSN: 1096-1453

Abstract

This paper suggests a simple exercise that facilitates active learning by embedding regular opportunities for student participation within the structure of an undergraduate course. This exercise involves the use of in-class participation assignments, which are adaptations of a popular classroom assessment technique, the one-minute paper. While likewise serving as an assessment tool, the suggested exercise is also able to address an additional range of instructional challenges, such as stimulating critical thinking, facilitating engagement with course materials, encouraging participation, and motivating preparation.

Introduction

Student participation is a necessary ingredient for active learning. Therefore, one of our primary responsibilities as instructors is to provide students with opportunities to develop their intellectual independence through class participation. By taking an active role in the learning process, students are empowered to become "co-producers of learning" (Barr and Tagg 1995). The benefits of such pedagogy have been well documented in the literature (see Bonwell and Eison 1991; Meyers and Jones 1993) and expositions of active learning strategies have proliferated on the Web [1].

Included among these strategies is the one-minute paper, developed by Professor Charles Schwartz and first appearing in the scholarship of Robert C. Wilson (1986). This exercise involves students responding anonymously, with a minute of writing at the end of a lesson, to some variation of two questions: "What was the most important thing you learned during this class?" and "What important question remains unanswered?" These responses are then collected and reviewed by the instructor.

While widely used, there is surprisingly little scholarship on the one-minute paper. Its most conspicuous appearance in higher education literature emphasizes its utility as a classroom assessment technique able to provide rapid feedback on student learning (see Angelo and Cross 1993; McKeachie 2002). Subsequent considerations of this exercise suggest that it provides high payoffs at low cost (Light 2004), is often under- or over-utilized (Stead 2005), and can make learning fun (Tollefson 2001). What this literature lacks, however, is a conversation regarding the ways in which the one-minute paper could be used to address instructional challenges beyond classroom assessment, such as stimulating critical thinking, facilitating engagement with course materials, encouraging participation, and motivating preparation. The adaptation of the minute paper suggested here--and students' reported perceptions of it--are offered in hopes of generating such a conversation.

What are In-Class Participation Assignments?

"Please take out a notecard!" Students in my political science courses [2] hear this refrain nearly every class meeting. The recognition that they will soon be engaged in another in-class participation assignment--one of twenty completed over the course of the semester--is immediate. By building-in these assignments as a regular component of the course structure, norms for student behavior begin to crystallize by the third week of class. The students do not groan or sigh or give any other sort of outward indication that they expect the next minute or two of writing to be a waste of time or particularly onerous. Rather, a feeling of energy and anticipation seems to sweep through the classroom. The students produce a notecard, write their name in the upper-left corner and the assignment number in the upper-right, and then await the prompt.

The original motivation for these in-class participation assignments came from my experiences as a graduate student in political science at a large research university, where I learned about teaching in two ways: as a participant in training sessions on the active learning model and as a teaching assistant in large lecture classes. While the theory underlying the active learning approach made intuitive sense---namely, that successful teaching and learning occurs when students actively participate in the learning process--the conventional wisdom that such an approach was untenable in large classes became further rooted in my mind with each subsequent Introduction to American Government lecture. After five years of cognitive dissonance, the opportunity arose to teach my own large introductory course [3] as a graduate instructor and, with it, the occasion to confront theory with practice and vice versa. With eighty-eight students on the roster, my goal was to provide all students with regular opportunities to actively participate in the learning process.

Considering the number of students in the classroom, I made a conscientious effort to jettison the presumption that "participating" in a discussion necessarily meant making a verbal contribution to it. After all, it is safe to assume that some (hopefully, many) students are actually engaging the material silently. And of course, there are always students eager to speak regardless of the relative value they contribute. The in-class participation assignments were therefore envisioned as a means by which students would actively grapple with the material and express their views, even if they choose not to voice them. Non-verbal participation, if active, can also sharpen critical thinking skills and stimulate higher-order thinking activities such as analysis and evaluation. I anticipated that these assignments could serve as proxies for the contributions of those students who do not join the discussion and also, perhaps, draw more students into speaking by assuring that they had something written down to contribute.

How are In-Class Participation Assignment Used?

These exercises are referred to as "in-class participation assignments" in my course syllabi because, frankly, it seems a more pedagogical-sounding moniker than "writing on notecards." Yet, writing on notecards is what it is. These simple assignments consist of seven basic components.

1. Students are required to bring notecards to every class.
2. After receiving a prompt, students take two minutes think about and then write their responses. This is usually followed by class discussion.

3. The prompts vary and seek to elicit a range of responses from students.
4. The assignments are unscheduled, which means that students have to attend class, be prepared, and participate to receive credit.
5. Full credit is earned simply by doing so. There are no make-up assignments.
6. Notecards are collected at the end of class and briefly reviewed while credits are inputted in the course grade book.
7. During the semester there are twenty notecard prompts. Each completed assignment is worth one-half percent of a student's total grade.

These components serve a dual purpose: they establish the rules of the game for in-class participation assignments while reflecting the values that constitute the "learning-centered environment" (Mihailidis and Hiebert 2006) in which they are used. To set early expectations, preempt any lingering confusion, and immediately immerse students in this environment, notecards are provided on the first day of the semester and students are asked to write one joke. This risk-free task immediately immerses the students in a participatory environment in an effort to relieve anxieties, establish behavioral norms, and create a comfortable learning environment. One of their jokes is read at the beginning of every class (their name withheld, of course). The quality of this contribution, they are reminded, determines whether or not we start off classes with a laugh; and likewise, the quality of each additional notecard contribution will determine the atmosphere of future class meetings.

The students' jokes, like all in-class participation assignments, earn them credit toward their final grade. As opposed to "low-stakes writing" such as the one-minute paper, which "doesn't count for a grade" (McKeachie 2002), these exercises are opportunities for no-stakes, risk-free writing that counts for full credit. This arrangement accomplishes three goals. First, it provides students with a clear incentive to come to class. Rewarding students with full credit makes them an offer to participate that they cannot refuse; and unlike simply taking role call, it encourages class attendance plus engagement. Second, it significantly lowers the demands on the instructor's time. Third, tethering ten percent of a student's total grade to their participation highlights how important it is to the course.

What are In-Class Participation Assignments Used For?

In addition to providing regular opportunities for student participation, these exercises can be used to pursue pedagogical goals. For example, prompts early in the semester ask students to offer their opinions on politically-related topics, such as: "What is human nature like?" Next, they move on to basic knowledge and comprehension questions, such as: "What are the fundamental differences between the Declaration of Independence and the U.S. Constitution?" These questions allow the instructor to place special emphasis on key concepts from lectures and readings, rather than settling for the more common warning that "you should know this for the exam."

By the fourth week, students are progressing toward higher-order thinking, responding to questions that ask them to critically analyze course materials. These include: "Whose arguments are more convincing, those of the Federalists or the Anti-Federalists, and why?" and "Which is the most powerful branch? Explain." Their responses reveal concerted efforts to think critically

about the material and a willingness to take risks by trying out new ideas. In order to perpetuate this comfortable learning environment, constant reminders are offered that their task is not to articulate the right answer, but rather one that is thoughtful.

Like the one-minute paper, these simple exercises also deliver high payoffs as a means of bringing student needs to light. The immediate and recurring outputs of their contributions provide feedback on student understanding and, consequently, in-class participation assignments also function as an informal assessment technique. This continuous flow of information makes it possible to keep a finger on the pulse of the class. The exercise is also valuable for assessing my own performance. For example, at the conclusion of a discussion regarding political culture, the prompt asked: "Does the United States have a unique political culture?" The majority of responses indicated that confusion reigned when it came to distinguishing between the classical liberalism of free markets and individual rights, and the modern liberalism of the Democratic Party. Armed with this feedback, this material was revisited to further clarify the distinction during the next class meeting.

Students' Perceptions of Benefits

Near the end of the semester, students are asked to reflect on their experiences with this exercise (on notecards, of course) in response to the prompt: "What are your thoughts on the regular use of student-response notecards in class?" Four broad categories of benefits that accompany the regular use of in-class participation assignments--as they are perceived by the students--were generated. According to their responses [4], these exercises:

Challenge students to think critically and to actively engage course material

Students responded that it was "nice to be critically thinking, and make connections in class." One student noticed: "I find myself thinking more critically [and] analyzing the subject so that I have fully-formed thoughts if they are needed on note cards." Students also deemed the notecards "invaluable" because they created "the chance to actively think as opposed to being dictated to in a 'traditional' setting." On this point, a student added that they were "more effective than having lecture and lecture and so on ... a nice break while still thinking about the subject." Students also credited the exercise with spurring them to actively engage course materials, indicating they are "helpful in getting me to think more directly about the material" and "look a little deeper into the meaning of the documents that we read."

Generate active participation and create a low-risk learning environment

Many students indicated that the primary benefit of the in-class participation assignments was that, "for a class this large, the student response cards provide a great opportunity for everyone to express their own thoughts/ideas." Specifically, while not only providing "encouragement to be involved in class," it was widely perceived that "the notecards are a way of helping people who don't like to speak in public express their views to the professor." As one student wrote: "I think the note cards are great especially for people like myself who don't feel totally comfortable speaking out in class." Some students noted that the exercises addressed their prior frustrations that "there are some very opinionated people with very good insight who are sometimes reluctant to speak in class" and that, even if they do not consider themselves "a quiet student," the reality is that "with this class size some students can't just raise their hand and say something." Because "some people can't speak their thoughts" and "express themselves better on paper," the assignments were appreciated--they "allow these people to express their views by another method." It was also important to students that 1 knew they were "actually thinking about different

topics in class despite the fact [that they] may not always speak in discussion."

Encourage attendance and motivate preparation

Students indicated that the regular use of these assignments "encourages attendance, reading assignments, and thinking about the material, not just showing up." While never officially referred to as a method of taking attendance, they perceived it as such and reflected upon this positively. One reason was that the exercise not only "gets people here," but "motivates for reading" and "helps me remember what I've read." Consequently, the feeling was that it "beats checking off my name." Another positive sign is that no student indicated they felt coerced into attending because of them. One student did write that "I'd hardly be in class" if not for the participation assignments, but added that "student response notecards rock!"

Allow for the assessment of student understanding and feedback on instruction

I was pleasantly surprised to discover that students in this introductory course were recognizing methods of student assessment beyond the typical means of evaluation (exams, essays, etc.). In terms of perceptions regarding the assessment of learning outcomes, students regarded the regular use of in-class participation assignments as "a non-threatening way to make sure that we as students are understanding and really thinking about the topics in the readings and in lecture" and "a good way to test our knowledge and understanding of the material." It was additionally satisfying to read that some students used in-class participation assignments as opportunities for self-assessment. As one student noted: "It helps me know how much I understand (or not) the readings." Additionally, many students indicated the exercises were a good way for an instructor "to connect with the class," and this led to further positive perceptions of the learning environment. On this, one student communicated that "the fact that you request our feedback shows that you are a concerned professor." The participation assignments contributed to this perception, as noted by a student who stepped into the instructor's shoes: "If I were a teacher, I would want to know how my students feel about my class." The exercises, another added, are "a good way for the prof. to judge how well he's teaching the material, and at the same time, I think it keeps us actively participating in class so that the material is more interesting."

Conclusion

With any instructional technique there is always room for further reflection and discussion regarding its implementation, versatility, and efficacy in the classroom. In this spirit, the aim of this article is not to supplant the one-minute paper, but rather to re-imagine it. In-class participation assignments, like its precursor, provide a valuable tool for classroom assessment. However, they are also able to promote active learning and address an additional range of instructional challenges. By embedding regular opportunities for student participation within the structure of an undergraduate course, this exercise can deliver great payoffs for remarkable little cost. This in-class participation assignment is of course not a silver bullet--but after all, it is just writing on notecards.

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Endnotes

[1] For excellent examples, see http://www.indiana.edu/icy/document/active_learning_techniques.pdf and <http://wwwl.umn.edu/ohr/teachlearn/tutorials/active/strategies.html>

[2] I have used these assignments at a variety of institutions (large state universities and small private universities), in introductory and upper-division courses on various topics (American government, public policy, government and business, constitutional law, public administration, political parties and elections, and political philosophy), and with wide variation in student numbers (19 in smallest course to 400 in largest).

[3] This was an Introduction to American Government course, taught during the spring semester of 2004 at the University of Texas at Austin. Instead of using a textbook I developed a custom reader of primary source documents, excerpts from academic books and journals, and news articles, which mirrored the typical chapters in an introductory American government textbook. Credit was earned through the in-class participation assignments and three exams, consisting of the identification of key concepts, short answer questions, and an essay. This was the first university-level government course for all eighty-eight students enrolled. All but two students were undeclared or majoring in something other than government. The 75-minute class was scheduled at 8:00 am, Tuesdays and Thursdays.

[4] Sixty-two students of the eighty-eight in the aforementioned course responded anonymously

to the prompt.

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