

### The One-Minute Paper

We asked faculty members and students what single change would most improve their current teaching and learning. Two ideas from both faculty and students swamped all others. One is the importance of enhancing students' awareness of "the big picture," the "big point of it all," and not just the details of a particular topic. The second is the importance of helpful and regular feedback from students so a professor can make midcourse corrections.

Most colleges and universities use a course evaluation form that students fill out after each semester. Information from these forms gives useful data to faculty—how well particular topics are received, how well various classes are organized, which textbooks are most helpful, what problem sets lead to the best learning. But typically a professor gets all this information after a course is over. That is helpful for next term, but not for next class or next week. Many faculty members point out that feedback *during* a course, when immediate changes and midcourse corrections are still possible, is even more valuable.

Patricia Cross, now a professor emeritus of higher education at the University of California at Berkeley, suggests a simple and low-tech device called the one-minute paper that addresses both the emphasis on the big picture and the need for feedback. The idea is to conclude the regular class lecture or discussion a minute or two before the end of class time. Then ask each student to take out a sheet of paper and write down, *anonymously*, brief answers to two questions:

1. What is the big point, the main idea, that you learned in class today?
2. What is the main unanswered question you leave class with today? What is the "muddiest" point?

A box is placed near the door to the classroom, and students drop their papers into the box as they leave. The professor picks up this bundle of anonymous papers and spends five minutes or so riffling through them. As Pat Cross points out, "You will be surprised at how quickly you will learn exactly what the students understood, what wasn't so clear to them, and you may even get some good ideas about how to begin your next class, in response to these one-minute papers."

This extraordinarily simple idea is catching on throughout Harvard and at many other campuses. It invites student reflection and feedback. Some experienced professors comment that it is the best example of high payoff for a tiny investment they have seen in years of teaching.

One of my colleagues, a master teacher at Harvard's Kennedy School of Government, recently began to use the one-minute paper in his classes on economics. He believes an unspoken but important side benefit of the one-minute paper is that knowing they will be asked to fill out the paper at the end of class focuses students' thinking. Students are constantly asking themselves, "What is the big idea here?" and also, "What is unclear to me, and how can I write a few coherent sentences that convey what I don't understand?" They are thinking throughout the class about what they will write. So this low-tech exercise keeps students' minds focused in a helpful way.

My colleague adds that starting each class with a quick overview of responses from the last session's one-minute papers builds continuity over time. It also offers a comfortable way for him to clear up any misunderstandings. Several colleagues note that students appreciate the opportunity to give immediate and specific feedback to their professor, especially when a particular class session doesn't go well.

Frederick Mosteller used the one-minute paper in his courses on basic statistical methods. He even extended it a bit, adding an additional step. After each class he wrote up a brief summary of information from the students' one-minute papers, which he handed out at the next class. Students found this handout particularly helpful. Not only did the professor get quick feedback on what was clear and what needed more work, students also learned from the summaries of their responses. Each student could see what the entire class found clear and unclear, and also whether his or her particular question was shared by many others.

In an article entitled "The Muddiest Point in the Lecture as a Feedback Device," Mosteller describes how this innovation changed his teaching. He estimates that it took him about an extra half-hour per class to prepare the summaries: "In all I prepared six handouts: that I would probably not otherwise have prepared, along with two more that I probably would have prepared anyway." And about six minutes at the beginning of each class was spent responding to queries. In addition, the class ended a couple of minutes early so students could do the paper. In all, about 15 percent of the class time (in 53-minute classes) was changed.

And what of the students? Mosteller says:

A few who seemed not to have a class in the next period pondered their responses for exasperatingly long periods while I waited, and they seemed very satisfied with what they had written. I did not have the impression that anyone prepared a response before coming. Nobody complained to me about lecture time lost. And of course, if you believe that participation speeds learning, as most people do, this task raised the level and maintained it at each session. (Mosteller 1989, p. 16)

To summarize, the one-minute paper has many benefits. It may not be suited to all courses, but it beautifully fulfills Robert Wilson's (1986) list of four benefits for any valuable teaching innovation:

1. It requires more active listening from students.
2. It helps instructors identify students who need special help or who lack adequate preparation for the course. In the best case, it helps students identify for themselves how they are doing.
3. It improves and focuses students' writing. Responses during the last weeks of a class are longer and more thoughtful and articulate than those during the early weeks.
4. It helps document for students that they are indeed learning something substantial in the course.

## Informal, Exploratory Writing Activities

Chapter Five focused on formal writing assignments calling for finished-product writing; this chapter focuses instead on unfinished, exploratory writing. Chapters Two and Three offer a justification for exploratory writing based on research into the writing processes of expert writers (where personal behind-the-scenes writing serves as a seedbed for ideas and as later-discarded scaffolding for finished products) and on studies showing its effectiveness for enhancing learning for students. Among composition scholars, its most commonly accepted name is *expressive writing*, the term used by Britton in his influential work summarized in Chapter Three (Britton and others, 1975). Many teachers across the curriculum, however, prefer terms such as *exploratory writing*, *unstructured writing*, *personal writing*, *freewriting*, *focused freewriting*, or simply *informal, nongraded writing*.

Whatever term we choose, what we mean is the kind of exploratory, thinking-on-paper writing we do to discover, develop, and clarify our own ideas. Exploratory writing is typically unorganized and tentative, moving off in unanticipated directions as new ideas, complications, and questions strike the writer in the process of thinking and creating. Examples of exploratory writing include journals, notebooks, marginal notes in books, nonstop freewrites, reading logs, diaries, daybooks, letters to colleagues, notes dashed off on napkins, early drafts of essays, and what physicist James Van Allen, author of more than 270 scientific papers, calls "memoranda to myself": "The mere process of writing," explains Van Allen, "is

one of the most powerful tools we have for clarifying our own thinking. I seldom get to the level of a publishable manuscript without a great deal of self torture and at least three drafts. My desk is littered with rejected attempts as I proceed. But there is a reward. I am never so clear about a matter as when I have just finished writing about it. The writing process itself produces that clarity. Indeed, I often write memoranda to myself solely for the purpose of clearing up my own thinking" (Barry, 1989, p. 9). Van Allen's point is that the process of writing drives thinking. Sometimes exploratory writing gets transformed into a finished product. More frequently, as in Van Allen's "memoranda," exploratory writing is an end in itself. Typically, college students do not realize the value of exploratory writing and are not given nearly enough opportunities for doing it. Consequently, they do not get enough practice at the kind of thinking and learning that such writing can stimulate.

### Common Objections to Exploratory Writing \_\_\_\_\_

Like meditation, exploratory writing takes practice, but once mastered, it is a powerful tool for focusing the mind on a problem and stimulating thought. Often teachers across the curriculum become believers in exploratory writing when they experience it firsthand in writing-across-the-curriculum workshops (see Abbott, Bartelt, Fishman, and Honda, 1992; Freisinger, 1980; Fulwiler and Young, 1982; Young and Fulwiler, 1986; Fulwiler, 1987a, 1987b; Belanoff, Elbow, and Fontaine, 1991).

Nevertheless, despite extensive empirical and testimonial evidence in support of exploratory writing, I have found that many of my colleagues remain unconvinced that assigning exploratory writing is worth the bother. Let's begin, then, by examining some of the objections that faculty raise against assigning exploratory writing in their classrooms.

#### If I Assign Exploratory Writing, I Have to Take Home Stacks of Journals

Many of my colleagues associate exploratory writing with wheelbarrow loads of student journals. As this chapter explains, there are plenty of ways other than journals to assign exploratory writing. There are also many ways of evaluating journals that will save you from carting them home in a wheelbarrow. Of course, requiring exploratory writing could mean taking home journals on occasion if requiring journals is your method of using exploratory writing

and if you enjoy reading student journals (many teachers do—they are often more interesting than essay exams or formal essays, and they connect teachers deeply with their students as persons and learners). I often read the journals I assign in my own classes simply because they give me so many insights into the individuality of my students. But if reading journals is not for you, there are plenty of alternative ways to work exploratory writing into your courses.

### Requiring Exploratory Writing Will Take Up Too Much of My Time

Another objection is that requiring exploratory writing takes up a lot of teacher time. This is so, however, only if the teacher feels compelled to read everything students write, which is equivalent, I would argue, to a piano teacher who listens to tapes of students' home practice sessions. Ideally, requiring exploratory writing should not take any teacher time because exploratory writing is writing for oneself with the intention of stimulating creativity or deepening and focusing thought. Students should do it for the same reasons professional writers do—its intrinsic satisfaction. In reality, though, most students need some teacher supervision to remain motivated, and teachers need to read some of their students' exploratory writing in order to coach their thinking processes. The trick is to read some of it, not all of it. This chapter gives hints for cutting down teacher time: some of the strategies in this chapter require almost no teacher time; other strategies allow plenty of flexibility in the teacher time required.

### Students Regard Exploratory Writing as Busywork

A more compelling objection to exploratory writing is that students regard it as busywork. Although much of the published literature in writing across the curriculum features enthusiastic teachers proclaiming their students' satisfaction with exploratory writing, there will always be students who do not like it and will regard it as busywork. Whenever I assign journals, for example, I find that about 20 percent of my students never seem to warm up to them.

To some extent, enjoyment of exploratory writing may be related to learning styles (Jensen and Di Tiberio, 1989; see also my discussion of learning styles in Chapter Three, pages 39–41). Some students, either by disposition or by experience, are closure oriented and dislike the open-ended, seemingly goalless nature of writing for oneself. Another cause—if the journals are ungraded—may be students' grade orientation rather than learning orientation. Janzow and Eison (1990) report that 25 to 38 percent of students said

that "written assignments (for example, homework and projects) that are not graded are a waste of time" (p. 96). Still another cause may be a teacher's failure to integrate exploratory writing effectively into the course so that it seems purposeful. But the most important cause, I would argue, is that many students have not yet learned to pose the kinds of self-sponsored questions or problems that drive true inquiry. Still viewing knowledge as "right answers" as opposed to arguments, students are not used to the kind of dialogic thinking that exploratory writing facilitates. In short, they see no need for exploratory writing because they see no need to explore.

From my perspective, then, the best response to this objection is not to abandon exploratory writing but to help students see its value. This chapter offers many suggestions for doing so. Let me offer here, though, two key strategies for getting students to become personally invested in exploratory writing.

First, try to incorporate students' exploratory writing directly into the texture of your course. Wherever possible, use their exploratory writing to stimulate class discussions or help them explore ideas for formal essays or exams. Many teachers open class with a question that students have explored the night before in a journal or thought letter. Some teachers have students share ideas from their exploratory writing in small groups. Others collect exploratory writing from a random selection of students each day as a way to check on students' learning and guide thinking. The point here is to help students appreciate exploratory writing as a purposeful part of the class.

Second, let them know that exploratory writing is something that expert writers do, that it is not simply an exercise for students. Students often get interested in exploratory writing when they see their teachers use it to think through ideas. Whenever possible, teachers should freewrite with their students during in-class writing sessions. Teachers can also model the process by bringing their own exploratory writing to class and sharing it with students.

### Exploratory Writing Is Junk Writing That Promotes Bad Writing Habits

Because exploratory writing is generally done without concern for organization, sentence structure, spelling, or mechanics, some instructors feel that this kind of writing simply encourages students to practice all the bad habits they already have.

This objection—that you should not encourage sloppiness—appears reasonable enough on the surface. However, it seems based on a faulty analogy between writing and some sphere of

*Knowledge =  
right answers  
- arguments*

human behavior where sloppiness is a moral error (housekeeping? auto mechanics?) rather than a developmental stage in a process. Exploratory writing is often inchoate because the writer has to sort through tangled strands of ideas that need to be written out and reflected on before they can be untangled and organized. Worrying about spelling and grammar when you are trying to discover and clarify ideas can shut down any writer's creative energy. Exploratory writing is messy because thought is messy.

Rather than junk writing, then, a better analogy for exploratory writing might be a musician's early practice sessions on a complex new piece or an architect's sketchbook of possible designs for a project.

### In-Class Writing

Perhaps the easiest way to use exploratory writing is to set aside five minutes or so during a class period for silent, uninterrupted writing in response to a thinking or learning task. Students can write at their desks while the teacher writes at the chalkboard, on an overhead transparency, or in a notebook. (Teachers who are

willing to write with their students are powerful role models.) Here are four suggestions for using in-class writing.

**1. Writing at the Beginning of Class to Probe a Subject.** Give students a question that reviews previous material or stimulates interest in what's coming. Review tasks can be open-ended and exploratory ("What questions do you want to ask about last night's readings?") or precise and specific ("What does it mean when we say that a certain market is 'efficient'?"). Or use a question to prime the pump for the day's discussion ("How does Plato's allegory of the cave make you look at knowledge in a new way?"). In-class writing gives students a chance to gather and focus their thoughts and, when shared, gives the teacher an opportunity to see students' thinking processes. Teachers can ask one or two students to read their responses, or they can collect a random sampling of responses to read after class. Since students are always eager to hear what the teacher has written, you might occasionally share your own in-class writing.

**2. Writing During Class to Refocus a Lagging Discussion or Cool Off a Heated One.** When students run out of things to say or when the discussion gets so heated that everyone wants to talk at once, suspend the discussion and ask for several minutes of writing.

**3. Writing During Class to Ask Questions or Express Confusion.** When lecturing on tough material, stop for a few minutes and ask students to respond to a writing prompt like this: "If you have understood my lecture so far, summarize my main points in your own words. If you are currently confused about something, please explain to me what is puzzling you; ask me the questions you need answered." You will find it an illuminating check on your teaching to collect a representative sample of responses to see how well students are understanding your presentations.

**4. Writing at the End of Class to Sum Up a Lecture or Discussion.** Give students several minutes at the end of class to sum up the day's lecture or discussion and to prepare questions to ask at the beginning of the next class period. (Some teachers take roll by having students write out a question during the last two minutes of class and submit it on a signed slip of paper.) A popular version of this strategy is the "minute paper" as reported by Angelo and Cross (1993, pp. 148-153). At the end of class, the professor asks two questions: (1) "What is the most significant thing you learned today?" and (2) "What question is uppermost in your mind at the



conclusion of this class session?" In another variation, the professor asks, "What is the muddiest point in the material I have just covered? (Tobias, 1989, pp. 53–54).