



'Minute' Papers Prove Their Worth Again

Of the many classroom assessment techniques proposed by Tom Angelo and Pat Cross in their well-known book on the subject, none is more widely used than the minute paper. Used in many different formats, this technique gives students a chance to demonstrate their understanding of content just presented in class. The technique has many devotees, most of whose experiences confirm the value of having students articulate what they do and don't understand about something just after having been introduced to it.

Consider what Brian J. Rogerson learned about the impact of his particular version of soliciting end-of-the-period student feedback. In this case, students in introductory chemistry courses were asked at the end of every period to answer in writing "brief questions about the material that had just been discussed in class." (p. 160) Like most using this technique have discovered, Rogerson found that the activity generally consumed the last ten minutes of the class but part of the time increase resulted from the way he used the technique. He asked students to answer the questions twice. They submitted one copy, not identifying themselves if they wished, and retained the second so that they could check their work when the correct answers were discussed at the beginning of the next class period. The answers were not graded, students were allowed to check their notes, and they could confer with fellow classmates, although most answered the questions on their own.

Rogerson devoted about 30 minutes of his time to analyzing the answers, paying particular attention to similar mistakes that could be categorized. He writes about the value of being able to intervene before these misconceptions gain a foothold in the students' minds. The subsequent class

period opened with an overhead that summarized students' answers and a discussion of their responses followed. If lots of students made lots of mistakes, the discussions were longer, but never more than ten minutes.

And what kind of results did this approach produce? Rogerson compared how the technique impacted a combined failure/dropout rate and grades in the two sections where he used it and in three sections where he did not. The instructor, the textbook, course content, and order in which the content was taught did not change across all five sections.

The results were dramatic. The combined failure/dropout rate in the sections where the technique was not used averaged 34.5 percent. It dropped to 16.7 percent (just about in half, a statistically significant difference) in the sections where it was used. Rogerson notes, "The gain associated with the use of this technique was reflected in an improved performance by marginal students since an increased frequency of students earning C and D grades was observed." (p. 161) At the same time the number of students who earned As and Bs remained about the same, causing Rogerson to conclude that the technique did not hurt those students. And, student ratings of the "course as a whole" also improved; from 50 percent who gave the course the highest two ratings on a 7 point scale to 68.1 percent when the feedback technique was used.

Rogerson's discussion of his experience with the technique is particularly candid. He notes: "When I first implemented this technique, I was surprised at how very simple questions would still reveal misconceptions or misunderstandings in a significant portion of the students. Even after classes in which I felt I had explained something very well and thoroughly, there

were students for whom the answer to the assessment was not obvious. ... Indeed, I have yet to receive a 100% correct response to an assessment. This has taught me never take anything for granted." (p. 163)

One final note of interest: Rogerson writes in some detail about how the technique helped him improve his teaching in a variety of ways. He decided not to use it for one semester. The failure/dropout rate in the course shot back up. He writes, "My (presumably) more experienced teaching did not help the marginal freshmen students the way the assessment technique did during terms 3 and 4 [when he used it]. ... While the insights I gained during the assessment semester became part of my teaching during the fifth term, they were not effective in the way student reflection and review were when assessments were in use." (p. 164) So, the real beneficiaries of minute papers are students. And that's a result that should not surprise us.

Reference: Rogerson, B. J. (February 2003). Effectiveness of a daily class progress assessment technique in introductory chemistry. *Journal of Chemical Education*, 80 (2), 160-164. ♥

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- 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.

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Curriculum-Specific Writing Assignments Improve Writing Skills

Writing across the curriculum has been a part of the academic scene for years. And most of us have gotten the point: writing skills need to be a focus of attention in many courses, not just those delivered by our English departments. But that point becomes especially convincing when it is supported by evidence that writing initiatives launched in other departments do make a difference. And it is even more impressive when those writing activities are carefully planned and integrated into the curriculum of a degree program.

The accounting department at the University of Wisconsin-Madison, designed eight writing assignments that were then integrated into various courses taken during the junior and senior years of the program. "The assignments require students to gather information related to the course topic, identify the relevant accounting literature for the topic, and develop a critical analysis of the issue based on their research." (p. 125)

Three other logistical elements support this writing initiative. In the course that begins this sequence, students are given information that establishes the importance of writing in the accounting profession. They receive details about the entire writing initiative and are introduced to various writing resources that they can use to support their efforts. Second, for all of these writing assignments students receive feedback from two graders — one who provides feedback on the writing displayed in the assignment and a second who makes judgments about the accounting content. And finally students are given "accounting-specific writing reference materials" (p. 126), including a web page about the writing initiative that lists a variety of resources and links to other support services.

In the detailed appendix that accompanies the article, the authors describe all aspects of this initiative, plus they offer a variety of implementation suggestions for others interested in launching a similar program. Additionally, the outcomes were just as carefully assessed. They began with a series of pragmatic questions: 1) How

can writing skills be measured? 2) How much of the outcome of a writing-skill improvement initiative can be attributed to that initiative as opposed to other factors (like general cognitive development, for example)? 3) How might a business communications course or other general-writing courses complement or supersede an accounting-department writing initiative? (p. 127)

The research design used to measure these outcomes is too complex to describe in much detail (see the article for all the specifics), but it involved both direct and indirect tests of students' writing skills. In the direct test, students wrote a memorandum that answered this question: "What does it mean to be a business professional?" The indirect test consisted of 20 multiple-choice questions about a passage of writing. The questions tested grammatical, punctuation, and organizational skills. The authors used these tests to measure differences between two groups of subjects (one group of accounting students who participated in the initiative and one control group of non-accounting students who did not experience the treatment) and to measure differences within the same group of accounting students across time.

Both the "between-subjects and within-subjects experimental designs suggest that our writing initiative was successful in improving the writing skills of accounting students." (p. 139)

The article reporting on this writing initiative provides an excellent model of how writing initiatives can successfully be incorporated in a degree program curriculum and a robust yet viable way of assessing their impact. These folks know for sure that their efforts to improve student writing are making a difference.

Reference: Ashbaugh, H., Johnstone, K. M., and Warfield, T. D. (May 2002). Outcome assessment of a writing-skill improvement initiative: Results and methodological implications. *Issues in Accounting Education*, 17 (2), 123-148.

Measure the ‘Compellingness’ of Learning Experiences

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Our university lists “providing compelling learning experiences” as one of its three main goals. Interestingly, the 12-question “student assessment of learning” form that students complete at the end of each course does not address the “compellingness” of the learning experience. To fill that gap, we developed something we call the Compellometer. Over the past five years, we have solicited feedback from 125 students using it. We’ve found that this fairly simple mechanism provides information that is useful in our departmental efforts to constructively evaluate the teaching and learning experiences offered in our program.

First, a description of the Compellometer: It’s a sheet of paper that contains a half-circle split into these six categories—Not at All, Barely, Below Average, Above Average, Very, and Wow—and arranged from left to right. The centerline of the half circle is labeled “Average.” The Compellometer looks like a two-dimensional applause meter. Above the half-circle is the request: “Please rate each course you took in the department on the ‘compellingness of the educational experience’ that it provided.” From our experience we have learned that this is a rating that students can and will provide.

Here’s how we use it: Most of our students participate in small-group exit interviews with the department head just prior to graduation. At the beginning of this interview, each student is given an individual Compellometer and a set of circular self-sticking labels (what we call “dots”). The dots (prepared before the interview) are marked with the course numbers of each departmental course the student has taken. Most students receive about 12 to 15 dots. We ask them to rate each course by placing the dots where they think they belong on the Compellometer. Their non-verbal feedback tells us that completing the Compellometers is fun — much more

enjoyable than filling out a survey. In five minutes or less, their task is complete.

This low-cost assessment technique has three benefits. First, it provides an easy and enjoyable way to begin the exit interviews. Although the Compellometers are not discussed during the group interviews (they are instead collected and tabulated), they positively influence the conversation that follows. Placing the dots reminds students of individual courses at the same time it encourages them to think about the broad scope of courses and learning they experienced during their program.

Second, the Compellometer results provide a useful complement to other types of course evaluations. Because this exercise is completed outside of the individual course, it addresses some of the concerns raised about traditional end-of-quarter evaluations. For example, some worry that students reward professors who either assign less work or give more favorable grades, or punish those faculty who don’t. Others object that end of course ratings do not measure how student course assessment may change over time. While we have not statistically analyzed how Compellometer rankings differ from end-of-quarter rankings, we can confirm that some courses rise (primarily the more challenging ones) while others fall when these comparisons are made. Because of these differences, the Compellometer results provide an additional evaluation of the quality of teaching and add valuable input to the annual faculty review.

Third, the Compellometer exercise provides a complete ranking of departmental courses. We have been pleased that students do not use a “Lake Wobegon” grading scale (i.e., “all our courses are above average”) and instead place courses in all six categories. That has helped the department identify and examine courses that regularly end up on the left of the scale (Not at All, Barely, and Below Average). In this way, the Compellometer has become a significant source of information for both staffing and curricular decisions. Typically, there is a strong positive correlation in the

Compellometer results for all courses taught by a particular instructor. However, this is not always the case and when it is not, we have a signal that it may be the course that’s the problem.

The Compellometer is a simple tool. It is low cost and low tech. Nonetheless, it provides valuable information that allows us to document how well we’re achieving this university goal at the same time it helps us to assess the teaching and curriculum used in our department.

Ed’s nte: The authors have graciously consented to let readers use the Compellometer approach without requesting permission. The permission is for individual or institutional, but not for profit-making use. ♥



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Self-Assessment and Peer Assessment: An Intriguing Combination

In past issues of the newsletter, we have raised questions about students' abilities to assess their own work and to provide constructive feedback to peers. We have summarized research that identifies conditions under which this kind of student assessment can occur. And we have worried that our exclusive reliance on teacher assessments fails to teach students the values and skills of peer and self-assessment.

The caveat, of course, is the very grade-oriented culture in which our students exist and how the motivation to get grades clouds the ability to honestly self-assess. Peer and self-assessment ends up being yet another of those vexing educational dilemmas for which we need creative alternatives.

For these reasons, we read with interest of a faculty member in the United Kingdom who used a highly creative, albeit somewhat complex, method that combined peer and self-assessments in a senior majors course.

The Method

The project involved an essay written by each student. The assessment process began with students and the professor jointly creating the assessment criteria students would use. Students then applied the criteria to their own papers. They were expected to provide detailed commentary and justification for the grade they assigned their papers.

Next followed a process of peer assessment during which students evaluated eight randomly selected (all of this occurred in an electronic environment) essays written by their classmates. These peer assessments were completed anonymously. The grades given by peers were combined into an average grade, in this case a median score as opposed to an arithmetic average to compensate for any wildly divergent peer assessments.

Then students were given a second opportunity to assess their papers, this time taking into account the feedback and score generated through the peer assessment process. On the basis of that review they were allowed to adjust the score they

had originally given their paper, referred to now as their "reflective self-assessment" grade.

The instructor took two additional steps to ensure that students took the peer review process seriously and here's where the procedure gets a bit complicated. The instructor graded each student's peer assessments of the other eight papers. To prevent students from making excessively high self-assessments, the instructor compared the self-assessment with the peer assessments made by that student. If the student over-rated his or her paper by 10 percent (based on peer ratings of his or her paper by classmates), then the instructor expected that the student would over-rate by 10 percent those peer papers he or she assessed. If that did not occur, the instructor concluded the student was assessing his or her paper more leniently and that was taken into account when computing the peer assessment grade.

Another problem emerged if a particular essay happened to be graded by a number of students who turned out to be "easy" graders. This would result in an assessment by peers higher than it should have been. To compensate, the instructor developed a "compensated peer average" that took into account whether a student on average had graded the essays harder or easier than other students. The article contains more details on calculating this and the previous factor.

Did this approach work?

Could students be trusted to grade their own work using a system like this? "Looking at the reflective-self assessment results, against peer and compensated grades, only 46 and 48 out of the 89 students, respectively, actually got it right." (p. 313) In these cases, the peer and self-assessments agreed.

However, a closer analysis revealed that only one out of the 89 students underestimated his/her performance by more than 10 percent and only 15 out of 89 overestimated their grades by 10 percent (a point grading system allows these calculations).

This means 82 percent of the students were within 10 percent of the compensated grade they were awarded and their reflective self-assessment grade.

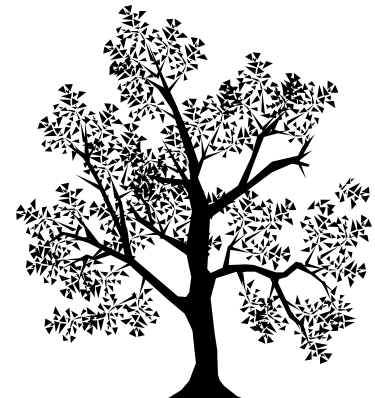
Student reaction

Student feedback about the procedure was very favorable. Students reported they found the self-assessment components very difficult. Because the procedure was so novel and unfamiliar, before doing any of the statistical analysis reported in the article, the instructor offered to reassess any essay, if students felt the peer grade was unfair.

Only two students requested this reanalysis. The instructor completed it without knowing the peer grade (as students progressed through the steps, all scores were calculated, adjusted, and reported electronically). In both cases, the instructor's grades were within three percent of the compensated grade calculated from the peer assessments.

This particular procedure involved significant technology design and development, so it may not be easy for all faculty to replicate. Nonetheless, the findings are intriguing and illustrate a robust approach to developing the kind of peer and self-assessments skills necessary if students are to accurately assess their work.

Reference: Davies, P. (2002). Using student reflective self-assessment for awarding degree classifications. *Innovations in Education and Teaching International*, 39 (4), 307-318. 🍀



Can't Get Around It — Attendance Counts

It should be obvious to students. In most classes, attendance makes a big difference. Even though the effects of not attending are almost always the same, many students still fail to reckon with the fact that skipping classes places them in jeopardy. Why don't they learn this simple lesson?

Interested in the role of and student attitude toward attendance and performance in his entry-level, nonmajors biology course, Randy Moore collected data on 434 students in several sections of the course. Of particular note was the attitude survey he had students complete both at the beginning and end of the course. On the first day of his course, 57 percent of the students reported believing that they would receive an A in the course, 41 percent thought they'd get a B, 2 percent a C, and nobody predicted that they would get less than a C. Also in this initial survey, 86 percent of the students expected that they would attend between 81 and 100 percent of the class sessions, 12 percent said they'd be at between 61 percent and 80 percent of the classes, and only 2 percent thought they'd attend between 41 and 60 percent of the class sessions.

Most of us can predict what Moore found. Only 7 percent of the students received an A; 32 percent got Bs; 25 percent Cs,

13 percent Ds, and 22 percent failed or withdrew. And only 44 percent of the students attended 81 percent to 100 percent of the class sessions, 20 percent made it to 61 percent to 80 percent of the classes, 10 percent attended 41 percent to 60 percent, 14 percent got to 21 percent to 40 percent and 12 percent to less than 20 percent of the classes. And also as most of us would anticipate, there was a strong relationship between attendance and performance: "No student who attended less than 80% of classes got an A in the course." (p. 369) Moreover, if students attended 81 to 100 percent of the time, they had a 95 percent chance of obtaining at least a C in the course.

Of special interest in this analysis were the questions Moore asked about giving credit for attendance—something he did not do in this course. At the beginning of the course, 79 percent of the students agreed with this statement: "Attendance should be a direct part of my grade in this course; I should get academic credit for attending class." And 76 percent agreed with this statement: "My decision to attend class will be influenced by whether I receive credit for class." Give credit and I will attend more often, one assumes.

Moore is troubled (as the rest of us should be) by the disconnect occurring here in students' thinking. We require and

grade their attendance in class because we know that attendance does affect performance, in most courses and for most students. We assume students see the connection and are learning from it. But in fact, students now expect an attendance grade that is quite independent of their mastery of the material and what they are learning. If that incentive is not present, students conclude that attendance doesn't matter in that class and so they opt to attend less regularly. It is ironic (and somewhat frightening) that a practice designed to promote maturity and responsibility in students is having exactly the opposite effect.

Ed's note: This article models an easy and constructive way to assess the impact of attendance on performance that can be applied in any course. Questions used to ascertain student attitudes about attendance appear in the article and make a wonderful way to generate discussion about the role of attendance in any course.

Reference: Moore, R. Attendance and performance: How important is it for students to attend class? *Journal of College Science Teaching*, 32 (6), 367-371. 🍀

Careless Feedback Discourages, Confuses Students

It was one of those really awful term papers, prepared by a student whose writing skills were marginal and who had yet to understand how to analyze literature and then use research to inform and support a position. She brought the essay to the Writing Center in week 14 of the semester. Even though the paper had already been graded (she'd gotten an F for the writing and a D for content) and she'd been invited to revise and resubmit, there was not much we could do at that point.

But that's only relevant background. It was those five or six sentences of instructor commentary, carefully penned at the

end, that have kept me perplexed for the last several days. The professor began by noting the student's failure to do more than "recapitulate" in her narrative. It continued by pointing out that her perception of "meaning" was superficial and that she failed to "elucidate the subtle nuances" of various characters. She must stop writing in the "vernacular" and start thinking about the paper's structure "holistically."

I asked the student if she understood what the instructor had written. "Not really," she said. I suggested we start there and that she underline any words in those comments that she didn't understand. She

underlined 16 in those five or six lines. We spent the next 10 minutes in the dictionary and discussion as we tried to understand what the instructor had told her about the paper.

I had a hard time keeping my mind focused on the discussion. I was trying to figure out what professor in his/her right mind would offer that kind feedback to this level student. How could you have just made your way through a paper like this and then respond with a paragraph of prose fit for publication? Perhaps he trying

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Four Teaching Maxims That Endure

As part of a special section in a recent issue of *Teaching Psychology*, Bill McKeachie, author of the best-known book on college teaching, the venerable *Teaching Tips*, first published in 1950 and now in its 11th edition, looks back to ascertain what's changed and what has stayed the same. This retrospective appears in a section that celebrates a 100-year-old book on teaching psychology written by William James, *Talks to Teachers and to Students*.

McKeachie begins with what isn't new: learner-centered education and active learning. He finds descriptions of it in James' book and in the very first edition of *Teaching Tips*. "If we grant that a rigid authoritarian method of teaching is one way of handling student anxiety, we still may not grant that this is the most desirable method to be used in an educational system which has as its aim preparation for life in a democracy." (p. 41) And claims for the effectiveness of these more student-centered approaches are supported by research, conducted by McKeachie and a colleague and published in 1949.

Obviously, much has changed since 1950. McKeachie discusses what is now known about learning and memory, changes in cognitive goals (we now believe

that we can teach students to think) and a growing commitment to teaching values. But much has stayed the same. McKeachie lists four themes that have remained "stable" across all the editions of his book. He highlights them this way:

1. *The importance of students' feeling that the teacher cares about their learning and them as individuals.* At its center, this is what learner-centered instruction is all about. Having a teacher who cares doesn't cause learning, but it significantly impacts the motivation to learn.
2. *The value of getting students to participate in discussion.* In the very first edition of the book, McKeachie and co-author Kim focus on breaking large classes into small groups so that students will have a chance to talk about the content. Now the interest is in cooperative learning but the basic premise is the same. Students can learn from and with each other.
3. *The role of testing and grading in student motivation.* *Teaching Tips* has always stressed the importance of keying examinations and grading to one's objectives. If grades are based simply on rote memory of details, teachers are not likely to achieve goals of thinking and

later application." (p. 42)

4. *The value of getting feedback to improve a course.* Ahead of his time in the first edition of the book, McKeachie was calling for the use of student ratings and supporting that call with references to research documenting the value of student input to course improvement.

To validate his last point and to illustrate how the more things change, the more they stay the same, McKeachie includes a treasured "bad" rating he received at the end of his first year of lecturing. "Dr. McKeachie is very interesting and worthwhile, but I have rated him low because he doesn't give us enough facts. The sort of job I get will depend on my grades, and I have little chance for beating other students out for A's unless I can get at least a couple of pages of notes on each lecture. To make matters worse Dr. McKeachie summarizes the most important points at the end of the lecture so that everyone can get them." (p. 43)

Reference: McKeachie, W. K. (2003). William James's *Talks to Teachers* (1899) and McKeachie's *Teaching Tips* (1999). *Teaching of Psychology*, 30 (1), 40-44.

CARELESS FEEDBACK

FROM PAGE 5

to model good writing for the student. But would a beginning skater needing to learn how to stop before crashing into the side of the rink learn that by watching Sarah Hughes do a triple jump?

Maybe he was practicing his prose — vainly trying to show off, his academic elitism out of control. "Look here, kid, this is how an educated person writes." "See how you write? See how I write? This is why I'm the professor and you're the student. Note the difference between us."

Maybe his point was even more cynical. Maybe he didn't want her to understand.

Maybe he was trying to communicate a more sinister message: You can't write. You can't write so badly that you'd be better off if you dropped out.

But the tone wasn't demeaning and buried in her convoluted mostly incoherent prose he had seen that she believed in her topic — he referred to the "passion" she felt about the subject. The student wondered if there was sexual innuendo here, until I explained that passion can be used to describe any set of strongly held feelings.

Maybe he just wasn't thinking. Maybe he'd read too many papers. It was probably late and he was tired, looking for that last paper in the stack. So he went ahead,

speaking to her in the language of his world, without thinking that she, new to the ivory tower, did not yet comprehend academic discourse.

But whatever he was or wasn't thinking, his much-needed feedback did nothing to help her correct and adjust a message badly in need of repair. Rather, it served to confirm what she had already concluded: She can't write papers. Once I started counting, she said that eight more times. His motivation remains a mystery, but I do know that I witnessed one of those rubber-meets-the-road-and-melts-down events: education on a fast track to nowhere.

Make Learning Active in and out of Class

Ed's nte: As always we encourage and welcome thoughtful response to material published in previous issues. This reader takes us to task on the definition of active learning.

By Steve Golin
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I agree with everything in the article on active learning that appears in the November 2002 issue of *The Teaching Professor*, and yet something bothers me. Active learning in that article is confined to what takes place inside the classroom. Why? Why is active learning almost always defined in this limited way? What about the time the student spends outside of class?

The concept of active learning is much broader than participation in classroom activities. I once observed a class in organic chemistry in which the teacher did virtually all the talking. Bad teaching, little learning, I thought. Then I conducted some in-depth interviews with students in the class. One had started with low exam

scores and then jumped to consistently high scores. How? I asked him. What did he learn? He explained that he'd realized that he could not memorize the answers, that the problems on the test were not the same ones the professor went over in class. He learned to study the principles behind the professor's approach to problems until he understood them from the inside, and then he could apply those principles to the similar but different problems on the exam. I learned that a lot of active learning was taking place, even though I didn't see it when I observed class.

This anecdote should not be misunderstood. I'm not advocating classes in which instructors do nothing but lecture. And I'm not setting up an either/or between active learning in the classroom and active learning outside it. I see one as an extension of the other. When teachers assign reading and test on it before they go over it (as I do), students have to figure out the material in those chapters so that they can answer essay questions about it. I think that's active learning.

The November article points out that

less content can be more. "Don't expect to cover everything you now cover in lecture, as well as the new active learning experiences." Again, I agree. But if we develop a grading policy that supports active learning outside the classroom, we save time for doing the things that can only be done in the classroom. If the students are themselves responsible for getting much of the necessary information from books or articles, we can spend class time on active learning experiences and on responding to what students are learning or not learning.

Why has active learning come to be defined so narrowly? I don't know. Maybe it's because active learning strategies in the classroom are easily observed, or maybe we still think that the classroom is the focal point of all student learning. But I think that by limiting the notion of active learning to the hours students spend in class, we've neglected all those hours they aren't in class. We need effective active learning strategies for those times as well, because most learning doesn't take place in the classroom! 🍀

Group Exams: Students Report on the Experience

One of the group learning mechanisms being explored by faculty involves students taking an exam as a group. A variety of schemes have been used, most of them involving structures that ameliorate the group grade to some degree. However, Bobbette M. Morgan, who gives students the option of taking an exam in groups of three, gives each group member the same exam grade. How do students respond to taking a test and then being graded as a group?

After taking the exam, Morgan's students responded to this open-ended query: "You have just completed your first cooperative examination. Please describe how you felt preparing for the examination and how you feel now that you have completed this examination." (p. 43) She analyzed the responses of 140 of them and organized them into the eight clusters listed below, some illustrated with an actual student

comment. Some of their responses are to be expected but others are surprising and show that for some of these students, this turned out to be a valuable experience through which they learned content and other important lessons.

1. Support and/or reinforcement from the group: All 140 of the students indicated that they found the group exam less stressful than individual exams. They felt the group context supported and encouraged their individual efforts to prepare and perform.
2. More relaxed and confident: In this cohort, 42 percent reported that they felt relaxed and confident during and after the exam. "I actually felt light-hearted and laughed during the midterm." (p. 44) Note: these findings do

not mean that the remaining 58 percent were not relaxed or confident; only that they did not comment on this area.

3. All knew the material and did their part: Students had been working together in these groups for eight weeks prior the exam. Thirty-nine percent of them said straight out that they trusted their peers. They expected each other to prepare as the group had planned for the exam.
4. Deeper understanding of the material: Comments from 30 percent of the group indicated that they believed they had reached a higher level of understanding by preparing and doing the exam collectively.
5. Not let the team down: Sometimes the

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Group Leadership Project Teaches Corporate Skills

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The importance of working in a group to write an extensive research paper is vital not only to the students' comprehension of the material, but also to their ability to work successfully in teams in the workforce after graduation. I have developed a method of turning the academic group experience into a business management tool that gives the student both management and teamwork experience and conflict resolution tools. I call it the "Corporate Classroom," and it's a model that has applicability in many disciplines and with a variety of group projects.

I tell the class that they are part of a corporation that has me as the CEO. My first task is to appoint a number of Group Managers (GM). I hand out the following list of GM job requirements. I've noted in parenthesis the basic management skills that experience in this position helps to develop:

1. Interviewing and hiring all group members (decision making)
2. Choosing a paper topic to research (decision making and leadership)
3. Planning and scheduling all group meetings (organizing and planning)
4. Handling any group conflict that occurs (conflict resolution)
5. Reporting back to me (the CEO) regularly on group progress (organization)
6. Any and all other duties required by the CEO.

In order to motivate students to take on the extra work of being the GM, I offer a "salary" for the position equal to 25 points. The 25-point salary is added to the GMs' final project score (out of 200 total possible) as bonus points. The entire group gets the same grade on the project, except the GM has the 25 additional points.

I then ask each student who is interested in filling this role to complete a GM application. The application includes GPA

and scholastic and work experience. (You could tailor your applications to fit what you would need to know to hire a Group Manager for the group project used in your course.) I evaluate the applications over a one-week period, and may even take some time to interview the candidates if I believe it to be necessary. I then decide which students will be hired as GMs and announce that decision in class.

Once the GMs are hired, we take an entire class period for the GMs to interview their classmates. The GMs then rank each classmate on a scale of 1-10, with 10 being the best score. (These scores are kept confidential both from other GMs and the class.) I then take all the GMs' rankings home and fit members into each group. I always try to give each GM at least one of their top choices. However, every class member must be put into a group, and therefore, some GMs may find themselves with group members they would not have selected. This also ends up becoming a learning tool because it happens all the time in the real world. We do have to work with people we may not get along with or who may not pull their own weight.

I only meet with the GMs. I try to meet with them at least once a month during the semester, but am always available to meet with them as needed. When conflict does arise within a group, I meet with the GM privately, offering guidance and tools that can be used to resolve conflict. If the conflict is not resolved in a reasonable amount of time, I then step in and meet with the group to resolve the issues. If that does not work, then I have the ability as CEO to fire a group member. If that does occur, the fired group member is assigned a research project to complete independently. The fear of that enormous task usually is enough to motivate most group members to get back on track.

When the projects are finished, the group presents them to the class. They discuss not only the topic they researched, but their experience working together in the group as well. We discuss what went well, and what could have

been done better. We discuss the management tools they applied and teamwork successes.

At the end of the semester, I am confident that the students have significant knowledge of the course material, but they have also gained experience in teamwork, conflict resolution, goal setting, and project completion. The GMs leave with a better understanding of what it takes to be a successful manager. I am confident that group work structured according to this Corporate Classroom model prepares students for the workforce. 🍀

GROUP EXAMS

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- group itself creates a pressure that derives from not wanting to let others in the group down. Fifteen percent of the students reported that this was the case. "This forced me to study. I didn't want to be a weak link." (p. 45)
6. Feelings of stress: Some (13 percent) in the cohort did find the group content stressful for reasons related to the previous cluster. "The idea that my partners were depending on me made me very anxious." (p. 45)
 7. Concern regarding level of team members' preparation: A small percentage (13 percent) of the students were concerned about how well their group partners were preparing. Most of the time, however, they discovered that these fears were unfounded. "My peers knew more than I had given them credit for studying."
 8. Opinions about their group: Some students (6 percent) included comments noting how well their group had worked together.

Reference: Morgan, B. M. (2003). Cooperative learning in higher education: Undergraduate student reflections on group examinations for group grades. *College Student Journal*, 1, (March, 37), 40-49. 🍀