

A TEACHING GUIDE FOR LARGE CLASSES
From
THE CENTER FOR TEACHING EXCELLENCE
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Large Classes: A Teaching Guide Large Class Introduction

The Demand for Quality Undergraduate Education

A number of factors have recently placed greater demands and pressures on institutions of higher education to provide a quality undergraduate education. In 1994, the Wingspread Group outlined the following quality performance goals for graduates of U.S. colleges and universities ("Quality Assurance in Undergraduate Education: What the Public Expects." Report from a Wingspread Conference. ECS, Denver, CO.).

- Technical competence in a given field
- Communications, computational, and technological literacy
- Ability to gain and apply new knowledge and skills, as needed
- Ability to function well in a global community
- Range of attitudes including flexibility, adaptability, ease with diversity, motivation, ethical and civil behavior, creativity, resourcefulness and the ability to work with others, especially in teams
- Demonstrated ability to use all of the above to address problems in complex, real-world settings

The Large Classes Solution

The challenge to institutions to provide a high-quality undergraduate education comes when many colleges and universities are also facing budget crises. A solution that many institutions have turned to is large classes. Although no consensus exists as to the exact size of a large class, the term generally applies to classes with more than 60 students. Some regard a large class as one with more than 100 students. Large classes may be a cost-effective solution to budget crises at some institutions, but they have been criticized by teachers and students. According to The Teaching Professor, difficulties encountered by instructors of large classes include:

- Involving students in active learning
- Personalizing the environment
- Working with diverse student needs and backgrounds
- Managing classroom disruptions
- Adapting one's teaching style to the large lecture situation
- Addressing these concerns over the long-term

Instructors frequently feel that teaching large courses is an unrewarded (especially at a research-oriented institution), ineffective or, at the very least, challenging situation. At one time, assignments to teach large classes were reserved for senior faculty who were counted on to showcase the discipline and attract new students. Now, however, large classes maybe the least prestigious and most dreaded teaching assignment. And for many faculty, regardless of experience, teaching a large class seems difficult to do well. The large-class experience also challenges students. Most large-class courses are introductory and intended for first and second-year students for whom learning in a large class is a

new experience. They must learn to get by with less individual attention than they may have received in high school. As a result, some students may feel anonymous in the lecture and this anonymity may make it harder for them to become motivated to keep up. Another obstacle is that with so many of their peers listening, many students in large classes feel too intimidated to ask questions or too overwhelmed by the material to approach instructors or others for help.

Promoting Active Learning in Large Classes

We often think that learning occurs in proportion to class size: The smaller the class, the more students learn. However, while research shows that small classes provide more opportunities for feedback and discussion than large classes, as well as greater student satisfaction, it does not suggest that class size is necessarily a correlate of student learning. What counts is not the size of the class, but the quality of the teaching. The research suggests that the key to effective instruction and student learning, regardless of class size, is engaging students in active learning. Wulff et al. (1987) found that students separated the quality of instruction from class size. Student comments identified four characteristics of successful professors.

- Instructor competency: knowledge and experience with the subject
- Instructor concern: interest in assisting students and improving the learning process
- Instructor energy level: enthusiasm about the subject
- Instructor speaking ability: interesting, well-paced presentation of course material

Large Classes: A Teaching Guide Approaching the Teaching of Large Classes

The tips in this handbook are meant as suggestions to promote active learning in large classes. Keep the following in mind:

Big Picture Goal: Fostering Active Learning

Active learning means that students are engaged in processing the information being presented, not just passively receiving it. Research shows that techniques that promote active learning lead to better student performance. Teaching situations vary and what works for one instructor in one classroom may not be as effective in another situation. The tips included here come from faculty in several disciplines. Some of the methods may be appropriate for a particular subject or group of students, but may not mesh well with an individual instructor's personality. Feel free to adapt the tips to suit your style and subject.

Experiment

Many of the suggestions in the following sections call for instructors to play roles different from the ones they may be used to. When using a technique such as cooperative learning (see page 17) for the first time, you might try it for test review or with material

that you have already taught. Remember, students may also need time to adjust to a new teaching technique.

Developing Large Class Activities Takes Time and Experience

Many students will appreciate your effort to be an effective instructor, even if those efforts are not initially as successful as you had hoped. Ultimately, you must decide what works and what doesn't for your teaching style, course goals, and students.

Large Classes: A Teaching Guide: Establishing Ground Rules

Part of the challenge of teaching a large class is developing methods to deal with the large numbers of students in it. The following suggestions offer ways to deal efficiently with a large class.

Syllabus

The course syllabus is an effective way to set ground rules and state policies regarding attendance, missed exams, academic integrity, and classroom disruptions. Some instructors distribute the majority of handouts they will use in the class with the syllabus to reduce the amount of class time used to "shuffle paper". A thorough syllabus can also help keep students who miss class up-to-date. To help the freshmen and sophomores enrolled in large classes become more responsible for their own learning, several instructors include on their syllabi hints on "how to succeed in this class". Judith Torney-Purta and others at UMCP also include a list of expectations for themselves as instructors. Clearly, any policies stated in a syllabus need to be enforced and enforced consistently. For more information, see CTE's Resource Packet on Syllabus Construction

Attendance

Taking attendance in a large class can be time-consuming. However, class attendance has been shown to be a predictor of class learning, so it is worth encouraging students to attend. In the syllabus, you can outline the number of absences permitted without penalty and the consequences of absences beyond that number. The official University policy on attendance is printed in the Undergraduate Catalog chapter on "Registration, Academic Requirements, and Regulations". Bonnie Kendall of Indiana University in Bloomington takes attendance with entry or exit tickets. These tickets are questions or comments on the course material written by students before they enter or leave the classroom. In this way, attendance can be taken simply by tallying the slips with the further benefit that the instructor receives student feedback regarding the course.

Class Disruptions

At the university level, the majority of classroom disruptions involve activities such as talking or reading a newspaper. One way to combat such disruptions is to establish a policy that emphasizes common courtesy. If the disruption was unforeseen or happens

even though a policy has been set, it is important to respond to it either by approaching the disruptive student(s) after class or by indicating (verbally or non-verbally) that the behavior is not acceptable. Situations should not be permitted to escalate. Sometimes simply talking toward the disruptive students can quiet a discussion or return a newspaper to a book bag. Another common classroom disruption is caused by students who begin to pack up their belongings just before the end of class. One way to combat this behavior is to end your lectures in unpredictable ways so students will be less likely to guess when you are about to finish. Another is to indicate politely to students that class is not yet over and ask that they refrain from packing up early. One UMCP professor found he was able to hold students' attention until the end of class by using the last minutes of class to give a quick preview of the next lecture.

Large Classes: A Teaching Guide: Personalizing the Large Class

In any class, but especially in large classes, it is important to establish an atmosphere which conveys the professor's interest in and accessibility to students and which encourages students to participate.

Make a Large Class Feel Small

Many instructors try to "make a large class small" by treating it as such. Methods include walking around the classroom while lecturing, moving toward the student asking a question, helping TAs distribute handouts, and developing other methods that allow you to be closer to the students you are teaching. One instructor holds an "open house" during the first session in which students briefly chat with the TAs and the professor while choosing their lab sections. Group work, described in the section "Collaborative/Cooperative Learning", can also help create a more intimate atmosphere.

Encourage Questions

Most of us are reluctant to ask questions or make comments in front of dozens of our peers. When students do ask questions in large classes, it is important that the instructor respond in ways that encourage more questions. Students will not feel comfortable raising questions if they feel scorned, humiliated or embarrassed by a sarcastic response. Responses such as "I'm glad you asked that" or "That's a good question" will encourage students to continue asking questions. If appropriate, you might bring a question raised during office hours or after class into the classroom and mention the student's name, for example, "Ann asked me an interesting question about . . .". Nonverbal responses such as smiling or nodding can also indicate your support of student questions. When asking students questions, it is important to allow enough time--at least five to ten seconds--for them to consider their response. A number of methods exist that encourage student feedback and questions. A question-answer box set up in the classroom or lab or outside the professor's office allows students to raise questions outside of the classroom. Students can sign their questions or submit them anonymously. The professor responds to the questions during class. Extra credit can be given to students who sign their names and whose questions are answered during class. (You may have to seed the process by putting

a question in yourself and commenting on it as a student had submitted it.) Another way to personalize feedback is to invite students of a particular subgroup, e.g., "Let's hear from someone who lives on campus or someone majoring in science". In courses in which problem-solving is important, such as those in math or science, you might ask students to write any problems they have had difficulty solving on the board before class begins (and perhaps before you arrive). At the beginning of class, the instructor solves the problem.

Be Available

A shortcoming of large classes is the high student-instructor ratio. Being available to students both before and after class can combat this problem. Before class, you might walk around the room and ask students how things are going. After class, you can be available to answer questions. In addition, indicate that you take office hours seriously by informing students when you will and won't be in your office. Some instructors have taken advantage of electronic mail and have had students send questions or concerns in this form.

Try to Learn Student Names

Although it may seem daunting, it is important to attempt to learn your students' names. Methods facilitating this attempt include using a seating chart of students (though this requires that students always sit in the same seat), taking pictures of the students, or having them make name cards that they place in front of them during class. Taking attendance can help you learn their names and shows students that you are interested in doing so. Asking individual students to assist you with demonstrations or other equipment in the class can also help you learn their names. Once you have learned some students' names, use them to show that you are interested in learning the rest.

Relate Lectures and Discussions to Student Experiences

Some instructors integrate into the lecture information that they have gathered about students from information cards or questionnaires. Knowing the backgrounds of your students can also be used in asking for questions from a member of the band, from a person who lives on campus, etc. Show that you are open to the non-traditional students in the class by incorporating their life experiences into the class. You might also ask individuals or groups of students to provide examples or materials applicable to the class or have students complete a questionnaire, survey, or other instrument prior to class. You can then incorporate the tabulation and analysis of results into the lecture.

Pay Attention to Individual Students

One of the ways in which a large class differs from a small class is in the increased number of students who need attention from an instructor. While students who have done well in small classes tend to continue to do well in large ones, the performance of those who require more guidance from their instructors suffer in large classes. This problem

can be combated by keeping an eye on students' progress by reviewing their attendance, their performance on exams and homework, and requesting reports from TAs leading discussion sections. If you notice an abrupt change in the behavior or performance of a particular student, you might have an individual conference with him or her. If a student's problem is beyond the scope of the course material, you might refer him or her to campus help sources, such as the Learning Assistance Center. If enough students are having difficulty, you might arrange group sessions to review material and answer questions. Remember also to praise students for positive changes.

Consider Your Self-Presentation

Personalizing a course also involves presenting yourself to students as a person rather than just a reader of lectures and a vessel of knowledge. While it is not appropriate to reveal intimate personal details, including information about yourself in your lectures can help personalize the learning environment. The process can begin the first day if, while discussing the syllabus, you explain your philosophy behind certain policies or your experience in how students learn best. In explaining a challenging unit, you might discuss your difficulties in encountering it and learning it for the first time. Humor and showing that you can laugh at yourself can help establish rapport with students.

Give Personalized Feedback

It is difficult in a class of hundred(s) to provide every student with individualized feedback. One way to provide such feedback to each student at some time in the semester is to comment on a different group of exams or papers each time. That way, while not every student gets personalized feedback very time, they get individualized commentary from the professor at least once during the semester. In managing the paperwork in large classes, one professor has found it helpful to have a "student mailbox" for every student. The mailbox is a manila folder that contains quizzes and other papers; it helps the instructor organize papers and offers a degree of privacy to the student. The "mailboxes" also provide a way for the instructor to review periodically how students are doing and "send" them notes on their progress. For more information on Personalizing the Large Class, see: Gleason, M. "Better communication in large courses." *College Teaching*, 1986, 34 (1), 20-24. Herr, K. *Improving teaching and learning in large classes: A practical manual*. Fort Collins, CO: Office of Instructional Services, Colorado State University, 1985

Large Classes: A Teaching Guide: Lecturing

The formal lecture is among the oldest teaching methods and has been widely use in higher education for centuries. Potential benefits of a good lecture include:

- Presenting analyses and showing relationships between dissimilar ideas
- Modeling the thought-processes and problem-solving of a creative, intelligent person

- Summarizing and presenting an overview of a topic, which can set the stage for reading and further discussion
- Supplementing and expanding the knowledge presented in a textbook or other source of information
- Inspiring and motivating students to learn about a topic or subject matter
- Synthesizing, evaluating, and discussing information presented
- Tailoring the presentation of information to a particular group of students

While a lecture may benefit students in these and other ways, lecturing alone cannot ensure that students become active learners. Many of us have been taught by lecture and view it as safer, easier, and more reliable than other methods of instruction. Using lectures in combination with other kinds of instruction, such as discussion and cooperative learning, can increase their effectiveness.

Generally speaking, qualities of an effective lecturer are:

- A good knowledge base
- An enthusiasm for the discipline (not necessarily a "performer")
- Techniques for engaging students in active learning

Preparing the Course Content and Lectures

What are the fundamental concepts and/or knowledge that students are expected to gain from this course?

Most large lecture courses are introductory courses meant to provide an overview of a discipline that can help first and second-year students select a major field. Your department probably expects that its introductory courses familiarize prospective majors with the concepts and information they will need to do upper-level work. Knowing what your department expects the course to accomplish can help you focus your preparations for the course and each lecture. You might ask colleagues for course descriptions and old syllabi; departmental advisers can provide an overview of the undergraduate program.

What are your students' experiences and background with the subject matter?

Knowing the goals of the course is one important factor in developing lectures. Making the lectures relevant and interesting to students can aid their learning of the material. Some instructors give students broad questionnaires asking about their background in the subject as a diagnostic tool at the beginning of the semester. The information from the questionnaires can also be used to tailor your presentation of course material.

What is the relationship between the lectures and other course materials?

Lectures should do more than repeat the information presented in the textbook. Instead, they should illustrate the textbook's concepts using real-world examples; prepare or follow-up on class discussions, lab sections or readings ;provide up-to-date information

or thought on a theory; or present conflicting interpretations of a subject. Lectures can also be used to provoke students to think beyond simply "getting the facts" and to engage in the higher-order skills of critical thinking. Lectures also provide a forum for you to share your knowledge and training with your students by modeling a solution to a problem, illustrating a point with your own research, or demonstrating aloud how to analyze a text or problem. After offering such demonstrations a few times, students can practice it on their own or in groups.

Organizing the Lecture

What are the four or five main points the lecture should convey?

A strength of lectures is their ability to present a great deal of information. It is important to remember, however, that information that seems basic to an experienced scholar may be new to students in an introductory course. A recent study duplicated this experience for faculty members by having them take courses in disciplines completely different from their home discipline.

One professor wrote at the conclusion of the course:

It seemed to me during these lectures that I lacked any framework of prior knowledge, experience or intuition that could have helped me order the information I was receiving. I had no way of telling what was important and what was not. I had difficulty distinguishing between what was being communicated to me merely for purpose of illustration or analogy. I could not tell whether I understood or not. Students in introductory courses face this same obstacle and need the lecturer to help them focus on the four or five main points. Emphasizing these points, providing several examples, and repeating them throughout the lecture help students determine what information is most important.

Do your lecture notes include "stage directions"?

Teaching a large lecture class has been compared to performing for an audience. Smaller class settings provide more room to improvise and adapt a lesson plan during a class. In the large class, however, having a clear vision of where you need to be, when to cue technology, and how long each segment should take is essential for keeping the class moving and the "audience" engaged in the lesson.

If you're using technology, do you have a Plan B just in case?

Technology--overhead projectors, slides, films, computer displays--can enhance instruction if they are well-integrated with the class plan. Even if you've tested the equipment prior to class, things sometimes go wrong: a light bulb burns out, the power fails, a film breaks. When using technology, always have a plan B. Will you dismiss students and reschedule the film for another day, or will you summarize the film or deliver the next week's lecture?

Presenting Information

How will you begin your lecture?

The way a lecture begins can capture students' attention and emphasize the main point of the day. Try posing a problem or using a piece of poetry; a quotation, a current event, opinions, statistics, or anecdotes can also be used to engage students. Peter Frederick sometimes poses a problem at the beginning of a lecture which he then answers gradually throughout the course of the lecture. The answer to the problem becomes clear by the end of class, as does the process used to solve it. A variation is to pause before providing the solution and to ask students to make a guess or discuss it with classmates.

What activities and "energy shifts" are planned?

Studies of student attention span indicate that most students "tune out" of a lecture after 20 minutes even if they are taking notes. To combat this problem, an "energy shift"--changing of activities and pacing of the class--is recommended every 15 to 20 minutes. Such shifts might include a demonstration, opening the floor of the class up for discussion, asking a rhetorical question and pausing for an answer, or asking students to review the main points of the day.

What activities will you use to reach students with different learning styles?

One recent "hot topic" in higher education has been the different ways in which students learn. People have different preferences for processing new information. Some students prefer to learn by listening, others like visual representations, and still others learn by doing. Most lectures heavily favor those students who prefer listening so it is important to devise ways of presenting information that can appeal to learners with other preferences. Possibilities include demonstrations, role plays, discussions, simulations, problem-solving, real-world applications, or multi-media. By incorporating a variety of presentations into your lectures you can alter the pace as well as increase the chance that a different activity will clarify a point or a concept for students who may not be as strong in one particular style.

What materials will you use in giving the lecture?

Diagrams, graphs, outlines, slides and films can contribute much to the lecture but it is important to consider whether the technology you use is visible and audible to all students. Before class begins, place an overhead on the projector and check if it is visible from all parts of the room. If it is hard to discern part of a diagram or model, you may consider putting it on a handout instead of having students copy it for themselves. An OSU faculty member uses two overhead projectors--one to display the outline of the lecture and the second for the current point.

Delivering the Lecture

Are the main points or outline of the lecture written on the overhead or blackboard? Are students aware of the focus of the day's lecture?

Various methods can help keep students focused by providing a "map" of the lecture. Using the blackboard or an overhead projector to highlight a lecture's main points can help students take effective notes. Announcing the focus and objectives of the day's class at the beginning of the hour can help them determine which parts of the lecture are the most important. Another way to facilitate note taking is to list new terms, names, and references on the syllabus, the board or handouts.

Are student contributions encouraged and integrated into the lecture?

Many instructors would like students to participate more in the lecture by asking questions or making comments but need to find ways to overcome the reticence large classes can instill. Positive responses to questions, e.g., "That's a good question" or "I'm glad you asked that", show students you are open to questions will not be "shoot them down" in front of the class. You can also encourage students to ask questions by integrating their remarks into the lecture, e.g., "And that gets back to the Susan's point" or "That's a great question--it leads us to the next topic."

Are you familiar enough with the lecture plan to deliver it without reading?

Knowing the material and lecture plan for your class well allows you to focus on the reaction of your audience. Such familiarity enhances your delivery of the lecture since you can focus on your audience and not on your notes.

Can students following you comfortably or are they scribbling madly? Can every student see and hear you?

A common complaint about large classes noted on student evaluations is that lectures move too quickly. In the large-class setting, most students are reluctant to volunteer that the pace is too fast. Therefore, it is up to you to allow students to give you feedback on the lecture's pace. Observe what the students are doing--if they're scribbling madly rather than looking at you, you might slow things down. Periodically throughout the lecture, you might ask students which points they would like repeated or explained again. Questions can also be a way of pausing in the lecture and allowing students to "catch up" in their notes and in following the lecture.

Encouraging Active Learning

Is the material related to the students' experiences and/or background?

Student interest can be heightened and comprehension of the class material enhanced when examples and materials relate to the experiences and background of your particular audience.

How can students demonstrate their involvement in the class?

Taking notes is one way that students demonstrate their involvement in the class. Other techniques that help keep students involved include taking an informal vote on an issue or presenting a multiple choice question on the topic and ask students to choose the correct answer. Cooperative learning techniques, such as "buzz groups," are described in the section on collaborative learning (page 17). Peter Frederick has developed the "participatory lecture," orderly brainstorming in which students are asked to generate ideas and share their knowledge on a topic. Frederick describes this technique in detail in his article, "The Lively Lecture: Eight Variations," available in CTE's Resource Packet on Lectures.

What opportunities do you have to get feedback from students?

Numerous ways exist to get feedback on how your students are following your lecture. Several activities provide feedback and writing practice are described in the sections on Writing in Lectures, Giving Students Feedback, and Improving Teaching through Student Feedback. Other suggestions include:

Collecting several students' notebooks to get a sampling of how they're understanding the lectures . Having a question-answer box, in which students can deposit questions(described in more detail in the Personalizing the Large Class)

- Having students write complete one-minute papers (see Writing in Lectures)
- Asking students to generate a test item based on the day's lecture
- Asking at the end of class, "What points would you like me to repeat or clarify' or "Would you like additional information or explanations of anything we've discussed today?" instead of "Are there any questions?"

For more information on Lectures, see CTE's Resource Packet on Lectures. For more information on Active Learning, see P. Frederick, "Student Involvement: Active Learning in Large Classes" in the References section.

Large Classes: A Teaching Guide: Discussion

Traditionally, lectures do not feature much discussion and in comparison with small classes do less to develop in students' higher-order thinking skills. Discussion asks students to process information they have studied in new ways, for instance, by applying it, evaluating it, or comparing their understanding of it with that of others. Class discussions, either between the instructor and the students or the students themselves, greatly improve students' ability to retain information. Some ways in which discussion has been used successfully in a large class setting are outlined below. Lecture plans should include time for discussion once you have considered what kinds of questions you will ask and the purpose you want the discussion to serve. As mentioned previously, it takes time figure out what activities work best for you. One suggestion for incorporating

discussion into a lecture format is to gradually increase students' participation. The list here is presented in order of increased student involvement.

Questions

One way to encourage students to engage in thinking about the information being presented is to ask questions. Some instructors use short-answer questions to keep students' attention, such as "And when did the war end? What were other reasons for the Civil War?". In asking this kind of question, the instructor waits until some students respond. Another kind of a question is open-ended, such as, "Why did the Civil War end?" When asking a question you do not expect students will be able to answer briefly, it is essential that you pause long enough for them to consider it before giving an answer yourself. A third type of question solicits students' opinions, e.g., "What do you think about Locke's assertion of" or "In your opinion, why.. ." or "What do you think about . . . ?".

Show of Hands, Informal Votes, Short Surveys

Another way to involve students in the presentation of information is to ask for a show of hands or to take an informal vote on a subject or issue. For instance, you might ask, "How many are convinced by Smith's argument?" "How many feel that Goldberg's interpretation is reasonable?" This vote may or may not lead to student commentary. A short survey that asks students for their opinions on or familiarity with a topic can be given at the beginning or end of a class. If given at the beginning, the results could be tabulated and analyzed during class. If given at the end, the instructor could tabulate the results and incorporate them into the next lecture.

Student Discussions and Small Group Work

In these activities, the instructor poses a question or a problem and the students answer it by discussing it with one or two fellow students. For instance, after discussing a study, the instructor might ask students if they can think of alternative cases or factors. Students can also be asked to summarize the main points of the lecture. After the allotted time (five or ten minutes), the class reconvenes and volunteers from the groups offer their responses. The next section details more kinds of Collaborative/Cooperative Learning Activities.

Other Participatory Activities

Discussions can also be facilitated by having a group of students involved in the following activities:

Discussion Row

In a lecture hall, a couple of rows are designated as "discussion rows". The students in these rows are expected to respond to the instructors' questions throughout the lecture. Students might rotate sitting here throughout the semester.

Discussion Quadrant

The lecture hall might be divided into four quadrants. At different points in the lecture or semester, students from a particular quadrant are asked to respond to questions.

Expert Panel

In this case, a panel of "experts" on a particular topic are asked to respond to the instructor's and students' questions on a topic. Participation on a panel counts as part of the student's grade. (For more information, see Bernstein [1994] in the References section.)

Classroom "Talk Show"

In this activity, several students volunteer to be a guest on the "show." The idea is to represent different points of view by having a varied panel of guests. For instance, in a discussion about slavery, students could take the roles of a slave, a slave owner, an abolitionist, an anti-abolitionist, a priest, etc. Students not role-playing act as the audience and ask questions. The instructor should act as moderator and prepare several questions that will provoke different points of view in case the discussion lulls. For more information on Critical Thinking and Classroom Discussion, see the Resource Packet on these topics.

Large Classes: A Teaching Guide Giving Students Feedback

A major difficulty in teaching large classes is finding ways to provide feedback to and receive it from students. Exams, quizzes and other formal assessments are too time-intensive to be used often in the large class setting. Informal and ungraded activities can provide student feedback that is equally reliable.

Role of Feedback

- Feedback helps students find how they're doing in the course and whether they understand the material. Generally speaking, the more frequent the feedback, the better.
- Students should be asked what they think of the pace of lectures, how the lectures relate to readings, and whether they understand examples and course content. In-class writing exercises and group activities described above can help provide this information.
- In reviewing the class's performance on exams, comment not only on what they had difficulty with but also on what they did well. Find ways to recognize good performances and encourage students to improve and participate in the class.

- Make copies of exemplary papers available to other students as models.

Grading

Most college students are very sensitive about grades. Unfortunately, in situations that offer grades as the main motivating factor, learning the subject matter becomes a means to an end, rather than an end in itself. Lowman (1987) makes the following comment on the result of having a grade-only orientation: Instructors are more likely to have complaints about their evaluation methods and encourage a Grade Orientation (GO) in their students if they use frequent surprise tests, communicate the expectation that students are only in class to get notes on material that will be on exams, post test grades as the sole means of giving feedback, and rarely assign non-graded work. Instructors are likely to have fewer complaints about their evaluation methods if they test with the goal of finding out what students have learned rather than what details they have missed, see their role as motivating students to want to work independently of direction, use language such as "I would like" rather than "I am requiring" to convey less of an authoritarian style, and give students as much specific feedback during the term as possible. --Ohio State University Faculty Handbook, p. 19

Some activities described above involve practice in non-graded writing and thinking. Another way to relieve students' anxiety about grades and increase their involvement with the material is to assess homework not only for a correct response but also for the approach taken to solving the problem. Problems in the process that prevented the student from coming to the correct response can be pointed out by the instructor. The focus on accuracy can be reserved for the test. This form of grading can assign two points or full credit of practice (and perhaps not the correct answer); one point for partial credit; and no points for no credit.

Examination Tips

- In constructing tests, consider items that measure higher-order thinking rather than memorization of details. As a contributor to the Ohio State University Faculty Packet suggests, "Asking difficult questions about very specific important concepts, after making it clear that students are expected to learn them well, is more difficult, but also more appropriate."
- One suggested writing exercise is to have students generate their own test items based on a day's lecture. These items can be used on actual tests.
- When he's short on proctors, John Layman, a UMCP professor in physics and education, explains the exam and only allows questions at the beginning of class. If students have questions during exams, they must incorporate them into their answers.
- Some professors develop multiple forms and versions of their test to reduce students' temptation to cheat.
- Research indicates that students are more satisfied with an objective exam if they are permitted to comment on the fairness of questions. A space can be left for students to comment on certain items. If the comment shows that the student understood the material, credit can be given for the item.

- The student management team (see below) can provide feedback on the general perception of the difficulty and fairness of the exam

Large Classes: A Teaching Guide Involving Teaching Assistants

In Lectures

One, two, or more teaching assistants (TAs) are usually assigned to classes with large enrollments. Traditionally, the professors organize the course and lecture, while TAs guide students in discussion or lab sections. One of CTE's initiatives is to encourage faculty to view TAs as future professors and to become involved in their training and development as teachers. Encourage (or require) TAs to attend the lectures. When TAs attend lectures, students view you and them as a united front. TA attendance also increases students' chances for instructor contact. Involve your TAs in the planning of your lectures to give them a chance to see how a lecture is constructed--a process they may engage in soon enough themselves. Another reason to have TAs attend lectures is that students frequently comment that when TAs lack familiarity with the lecture content it decreases the usefulness of the discussion section. Have TAs help during small group work. TAs can help facilitate brief, small-group discussions or encourage students to stay on task. They can be an additional set of eyes and ears as to how the class went. Try switching roles for a week. For a week, invite your TAs to guest lecture while you run the discussion sections. In addition to giving everyone change of pace, lecturing provides TAs with valuable experience and gives you a chance to have greater contact with the students.

Large Classes: A Teaching Guide References

The majority of these resources are available from CTE.

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Large Classes: A Teaching Guide Appendix A: Seven Principles of Good Teaching

The following is a brief summary of the Seven Principles for Good Practice in Undergraduate Education as compiled in a study supported by the American Association for Higher Education, the Education Commission of the United States, and The Johnson Foundation.

1. Good Practice Encourages Student-Faculty Contact

Frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans.

2. Good Practice Encourages Cooperation Among Students

Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions improves thinking and deepens understanding.

3. Good Practice Encourages Active Learning

Learning is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves.

4. Good Practice Gives Prompt Feedback

Knowing what you know and don't know focuses learning. Students need appropriate feedback on performance to benefit from courses. In getting started, students need help in assessing existing knowledge and competence. In classes, students need frequent opportunities to perform and receive suggestions for improvement. At various points

during college, and at the end, students need chances to reflect on what they have learned, what they still need to know, and how to assess themselves.

5. Good Practice Emphasizes Time on Task

Time plus energy equals learning. There is no substitute for time on task. Learning to use one's time well is critical for students and professionals alike. Students need help in learning effective time management. Allocating realistic amounts of time means effective learning for students and effective teaching for faculty. How an institution defines time expectations for students, faculty, administrators, and other professional staff can establish the basis for high performance for all.

6. Good Practice Communicates High Expectations

Expect more from students and you will get it. High expectations are important for everyone--for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. Expecting students to perform well becomes a self-fulfilling prophecy when teachers and institutions hold high expectations for themselves and make extra efforts.

7. Good Practice Respects Diverse Talents and Ways of Learning

There are many roads to learning. People bring different talents and styles of learning to college. Brilliant students in the seminar room may be all thumbs in the lab or art studio. Students rich in hands-on experience may not do so well with theory. Students need the opportunity to show their talents and to learn in ways that work for them. Then they can be pushed to learning in new ways that do not come so easily