AC 1997-185: A Good Lecture: A Framework for Classroom Management

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ABSTRACT
Classroom management involves global course communications as well as parochial classroom concerns. A good series of lectures presented consistently over the duration of a course is an optimal tool for maximizing the transfer of important course related information, minimizing the spread of course related confusion and providing a low energy path toward good classroom management. Important classroom related issues are easily classified as global or parochial by the role those items have as the course progresses. The extent to which the lecture can effectively transfer these two types of information determines the likelihood of having a well-managed course.

INTRODUCTION
Global course information and management issues involve the motivational and milage marker details associated with the course. Motivation items include a clear understanding and at least placid agreement between professor and students as to the purpose, goals and expectations for the course. This includes information as to how the course will fit the curriculum, the specific knowledge areas that will be covered and finally how the student's efforts will be evaluated. Milage marker items include specific details about test dates, formats, and overall value in the grand scheme of things. Information related to subject material to be tested as well as an indication as to graded test return dates also represent items in this category.

Parochial classroom concerns and how they are handled define the essence of any course. Items in this category include the structure of the classroom experience, the types of materials selected for classroom presentation and the methods employed to deliver this material. Time allocation and management of allocated time also play a key role in successful classroom management. These items combined with a generous mix of unpredictable and impromptu behavior by students in an average-sized class all contribute to a local classroom environment that can best be managed within the structure of a good lecture.

This paper's focus is on the use of the lecture as a frame for good classroom management. Several key global and parochial items are identified. The ways these global and parochial course factors are conveniently handled within the lecture instructional method are explored. Finally, the specific ways the lecture implements these factors to optimize the student/professor interaction within the usual large group interaction format are discussed.

The Lecture Framework
The lecture is a time-tested and proven method for transferring information effectively. Together with public oration, its success is based on its structure and its appropriate application. The teaching of engineering concepts, design practices and principles fits nicely into these application and structure constraints.

The lecture's structure is framed by its introduction, body and closure sections. The introduction or opening must quickly bring the listener's attention to the mission at hand. In addition, it should help the student identify and prioritize the more and less important features of the imminent lecture. The body is the well-organized lecture section that must transmit the content of the material under consideration to the audience. Although there are several strategies for this delivery their common feature is the presentation of new material. At the end of this delivery, students will at least be temporarily knowledgeable of, and comfortable with, the contents of the lecture. The closure section of the lecture must bring the entire lecture to conclusion. If the first two components of the lecture were executed correctly, this closure task is straightforward with several options available. The main points of the day could be restated directly or within a new example. The information presented in the lecture could be placed in perspective with the entire course. Or, perhaps the students themselves could be elicited to accomplish either or both tasks.

It is the lecture's structure that provides the framework for good classroom management. This three part structure is accommodating to most global and parochial course and classroom needs. The repeated practice of presenting well- prepared lectures gives the instructor ample opportunities to introduce, reinforce and when necessary enforce course management policies, practices, and procedures. The lecture introduction and closure sections will be the most convenient for parochial business while the body of a lecture will provide the management thread through the entire course. The body of each lecture presented will extend the course continuity by expanding the student's knowledge of the subject. As students repeatedly experience well-prepared lectures with clear goals, objectives and accomplishments, their own role in the process will crystalize, their general confusion about the course will decrease and their classroom comfort and participation confidence will increase.

Global Management Issues
There are several issues that surround a course and the classes it encompasses. These are identified as global issues because each affects the outcome performance of the whole course with respect to what the students have learned and how well the instructor has taught.

Course attendance and student participation are examples of important global parameters for a course. The administration of a selected attendance policy requires minimal effort within the lecture format. Variations from attendance polling, quizzes or random targeted questions at the beginning of class are easy to implement. Student participation initiatives also fit comfortably with a lecture. Options include requesting a student to summarize the last lecture during the current lecture's introduction phase or having a student review the current lecture points during the lecture's closure. The body of the lecture is also ripe with opportunities for student interaction. However, this mode is more open ended and will lead to surprises on occasion.

Audit practices and how they are implemented are key elements of a well-managed course and classroom. There are countless times all of the quality of a course has been negated by poor audit procedures. The management of a course is contingent on a sensible evaluation method administered fairly with reasonable, timely feedback to students. There are two fundamental requirements for a good audit method for any course.

First, students must know how they are progressing in the course as it progresses. To meet this requirement some evaluation exercises with appropriate feedback must occur as the course moves through its weekly ritual. Although many will argue that a midterm exam will meet this need, it really does not do so. This is especially true if the course management concept is correctly expanded to include a good mental attitude of the students taking the course.

Since a course is a living entity in the sense that each class has a unique characteristic based on the lives of the participants, the instructor must provide feedback to course participants as frequently as possible. Such a practice will keep the material presented framed with the people learning the material. The periodic review of student knowledge base will also provide a review of the instructors performance. This, in turn, will help the instructor deal with good or poor general class performance, representation of difficult material, and the overall pace of information transfer. In other words, the instructor will have good control of the course, the class, the direction and the final outcome of the learning experience, i.e. the course will be well-managed.

The second audit method requirement is also simple to implement. Students must receive an evaluation for the course that reflects their final knowledge of the material in the course. It is certainly tempting to modify the second requirement to include weightings for how hard a student tries or perhaps how much more the student would have learned if a harder effort was put forth. Unfortunately both of these conditions reflect on what might have happened and neither helps the student focus on what did happen.

Expectation modifiers on performance evaluations also lead inevitably to poor classroom management. Instructors that add this well-intended but intensely subjective component to their grading scheme usually generate a subset of poorly defined rules on evaluation criteria that lead to confusion in the classroom. Students quickly learn to focus on convincing the instructor that they are deserving of this extra consideration. Fair or unfair treatment from the student perspective degenerates to if the student got what they wanted or not. Mental management of students in an
environment where the rules can shift to compensate for student effort is hard and students often lose sight of the course's knowledge based goals.

The lecture format is complementary to good audit policy requirements. Evaluations of a student's knowledge base as the course progresses is possible during every lecture. Regular short quizzes, random questions to the audience, unannounced quizzes and regular announced tests will easily accomplish this task. To be sure, the instructor's energy and involvement goes up as the number and type of evaluation techniques increases but so does the knowledge of class performance and capability. This increased and repeatedly updated knowledge of student performance is essential to manage the course as it works its way through the semester.

An instructor intervention policy is important for course management and essential if the course is presented in a lecture format. Intervention occurs whenever an instructor elects to or is forced to change the direction of a course event, topic or situation for any of a number of valid and sometimes invalid reasons. A lecture format course will always have intervention actions that

are generated by the students as well as the instructor. Therefore, a clear policy or at least philosophy about intervention into a course is recommended.

Intervention by itself is not disruptive. On the contrary, a timely interventive action by an instructor can often remove confusion and immediately restore order to a situation. For example, a test has just been distributed and a major mistake has been detected in a test question. An immediate short and to the point announcement by the instructor that students must (not should) skip that problem will save the day. Granted it is to bad that there was a mistake, it is unfortunate that the question in question had a significant credit value and it is certainly true that with the aid of a brief on the spot explanation the question could be salvaged. However, the quick decisive preemptive intervention by the instructor facilitates long term course management and keeps any further distraction--the question or its modified form--away from the students.

Intervention does not have to be so dramatic. Many times the course direction is changed by subtle actions that manipulate the students to a learning path that is better fitted to their current skill set. The instructor accomplishes this by assigning new or additional reading assignments, homework problems or even variations on the usual syllabus material.

Intervention actions can also be at the individual student level and still have an effect on classroom and course management. The typical examples deal with make up tests, late homework or project submissions and other types of one on one actions generated by the student or instructor missing a predetermined deadline. For most instructors these intervention events are governed by a strong desire to be fair. However, even with that guideline in mind, students not immediately involved with the intervention or not immediately benefitting from that intervention or perhaps even indirectly penalized by such an intervention will have a different view of the action.

Classroom and course management is compromised when intervention practices are not well thought out by the instructor or well understood by the students. Many intervention actions are predictable when various course scenarios are considered. Thus, the conditions and then consequences of such situations can be written up and distributed to the students. Verbal emphasis of common intervention policies should be provided in the lecture's introduction section as the need develops.

The more general and perhaps spontaneous interventions that develop as a course progresses will have minimal disruptive effect on the course provided the instructor is prepared for such situations and considers the consequences of those actions from a student's perspective. That perspective includes an understanding of the hard reality of taking several instructor perceived "most important" courses every semester and that every time an instructor makes an unnecessary intervention action it means more perceived unnecessary work by the student. A situation that will most assuredly lead to the interventionist instructor losing some management and control of those students and that course.

Parochial Management Issues
Although mishandling of global parameters will quickly put the instructor completely out of touch with a class, poor handling of parochial issues will still chip away classroom order and

management. A parochial course issue is defined as anything that if mishandled increases local classroom confusion, tension or disorder. Such items or actions by themselves are not very significant but collectively, can leave a feeling with the students that the instructor has either no respect for them or no interest in their well being.

One example of a parochial issue is the way tests are returned to students. Certainly a low energy way for an instructor to accomplish the task is to just leave them at a desk in the room after class or in the hall next to an office. While not a critical component in teaching, the casual attitude about student grade confidentiality can leave a bad taste with students, especially if a student didn't do so well and whose exam is on the top of the pile for all to see.

Other parochial issues may be a bit more subtle. Grading papers, quizzes and tests on a scale that students can not relate to is certainly on their irritation list. For students who are used to a 0 to 100% grade scale, a grade of 40% is a traumatic event. The relief generated when the student finally discovers that the average for that test was 15% is quickly replaced with confusion as to what the 40% means at all. Was it a good bad grade or a bad good grade.

Tardy starts and delayed finishes are additional parochial issues. The former transmits the idea that the instructor has other things to do that are more important. The latter reflects the attitude that the students don't have other things to do that are more important. Both lead to poor everyday classroom comfort and order since students quickly adjust to this instructor behavior pattern by coming later, leave earlier or ultimately not coming at all.

The lecturer's authoritative projection is an important parameter for everyday course management and classroom control. It is certainly not required nor advisable for the instructor to rule the course with an iron fist nor deliver lecture hall pontifications about ways to do things. What is required is a strong personal presence that includes a clear audible delivery that projects to the back of the room. The instructor must express the confidence of a person with knowledge to share, expend the energy needed for students to respond and then explore the topic with enthusiasm to burn.

 SUMMARY
Effective teaching is supported by proper classroom management.   This requires the instructor develop and communicate policies for global course issues and parochial concerns. The policies should be consistent with instructor expectations, student responsibilities and performance evaluation.

In summary, global course parameters deal with specific items or actions that can easily influence the way a course is conducted. Management of a course requires a clear understanding of how to deal with each of these global issues. An instructor must realize that a course is much more than the one way transfer of technical information from a text to a student. In fact, the technology transfer is only a fraction of the course's function. Students must learn how to use the information and how to transform that set of bookish facts into a background canvas for their own engineering experiences. The way the course manages global issues dictates how well the instructor accomplish that much more difficult task. If students are put in a confusing learning

environment with unclear expectations and responsibilities then the course is certainly mismanaged and the instructor does not accomplish the fundamental objective, to teach. Likewise, mismanaged parochial issues will have an effect on the daily productivity of a class. Unfortunately, instructors tend to have a collection of poorly handled parochial items that collectively degrade the quality of the whole course. Equally as sad is the fact that most of these items are correctable by most instructors. The secret is an attitude adjustment. The multiple role of Engineering faculty will not change. Faculty are expected to conduct research, support students, and teach classes. What can change is the intensity level faculty put onto teaching when performing that activity. That one behavior alteration will eliminate most parochial issues and increase the pleasure and satisfaction that good teaching does provide.

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