

“Will This Question be on the Final Exam?”

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Abstract

The idea of distributing the final exam at the first class meeting has positive and negative aspects that are explored. It has motivational implications for enrollees and instructor. Carrying out this plan requires careful course preparation to assure congruence of course objectives and instructional strategies, as well as appropriate evaluation of learning in both formative and summative forms. This proposition promotes effective teaching and learning of higher order thinking skills.

Introduction

The title of this paper was cited by a speaker at the Knoxville NACTA Annual Conference in 1989 as probably the most frequently asked question in college courses. If it is of such pervasive concern to students, shouldn't faculty give it serious thought? Why not distribute the final exam the first day of class?

Educational research and literature confirms -- even applauds this unorthodox behavior on the part of an instructor. How can this be? Let's take a closer look.

In thinking through this proposition the following questions come to mind:

- What are the arguments for and against distributing the final exam early in the course?
- How does this procedure influence student and teacher motivation?
- How does this approach to instruction enhance framing the course objectives?

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COMPARISON (continued from previous page.)

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- How does the instructor incorporate course objectives and higher order thinking skills into the final exam questions?
- How does one plan instruction that leads students toward fulfillment of the course objectives?
- What are the implications for formative and summative evaluation of a course when the final exam is distributed early?

Positive and Negative Aspects

Although there are several positive aspects to early distribution of the final exam, there are also some negative ones that should receive careful consideration.

The Positive View

When the final exam is handed out early in the course -- the vision, the plan, and the consistency among curriculum, instructional activities, and assessment procedures are clearly communicated to students. The students know from the outset what is expected and what procedures will be followed to meet those expectations." (Guskey, 1989).

If a class session does not deal with a course objective, or a supporting objective, it should be eliminated. Whether the instructor is very experienced or relatively new in the teaching role, distributing the final first encourages the development of a very well organized course in which each class session is purposely planned as an important part of the whole course. Writing clear course objectives requires effort, and guidance in doing this is helpful (Mager, 1975). A well prepared syllabus is like following a road map, with appropriately spaced scenic stops along the way.

A well-organized plan helps students to focus their atten-

tion and helps them to use an organized approach to learning. It also helps the instructor to carry students beyond mere memorization of factual material toward focusing on the higher level learning skills of problem solving (critical thinking) -- which include analysis, evaluation, and synthesis (Bloom, 1956). Analysis develops in students the ability to explain the basis of a statement of principle or concept (compare, distinguish, categorize). Evaluation is the ability to examine an idea from many perspectives -- to see the positive as well as the negative aspects (choose, select, predict). Synthesis is the ability to move to an over-arching view and state the relationship between, or among, several concepts or principles. Synthesis may include discovery of new relationships, or creative new applications of those already known (construct, plan, prepare). The trick, and work, is for the teacher to develop flexible instructional strategies that teach these problem solving skills within the subject area of the course (Brown and Keeley, 1987).

The ultimate goal, of course, is for students to carry these critical thinking skills with them into the commencement of their careers. This is effectively accomplished by helping students increase their awareness of the processes they use in solving problems by teaching them those processes. The kinds of experiences that enable students to do this are detailed in two outstanding references (Whimbey and Lochhead 1980, 1984) Small group learning activities provide an involvement opportunity for students to develop higher order learning skills -- "I hear, I forget; I see, I remember; I do, I understand!" In using such groups, it is important that the tasks be very carefully spelled out, that time frames be specified, and that the review include emphasis on how they did it.

Some instructors have suggested that distributing the final exam early could be used as a "pretest-posttest" exercise, having students actually fill out the exam the first day of class and keep it (ungraded, of course) as a study guide to follow as the course unfolds. Used this way, it could effectively complement the course syllabus.

There are a number of less obvious benefits of using this "final first" technique. It reduces the adversarial stance of teacher versus student -- instead, the teacher is alongside the student, serving as a guide through unfamiliar territory. Tension is reduced because clear expectations are shared by the instructor and the students and there is no hidden agenda. Further, in a climate of mutual respect, it encourages both instructor and students to keep each other "on track."

Handing out the final exam at the first class meeting implies that there are course expectations that everyone enrolled in the course is capable of fulfilling if they make a diligent effort. This is criterion-referenced, or mastery grading. It eliminates the unfair "sorting out" implicit in normative grading -- the infamous "grading on a curve." One group of writers puts it this way: "To ask questions that deal with the major facts or concepts in a field and tell students what these are in advance would do violence to the ranking functions of grades. Instead of telling students what we want them to know and then asking to show us they know it, we ask them questions better suited to obsessive nitpicking than to

critical or creative thinking. Faculties seem not to know that their chief instructional role is to promote learning and not to serve as personal selection agents for society. We have often wondered why so many instructors will devalue with bad tests what they perceive as the excellence of their teaching." (Milton, Pollio and Eison 1986). Making the final exam public information, then, also requires that the instructor embrace criterion-referenced grading -- rewarding effort toward the achievement of reasonable, attainable goals.

The Negative View

A genuine concern in distributing the final exam the first day of class is the possibility that in reading through it, students may conclude that the expectations are beyond their capability. It may be necessary for the instructor to assure them at the beginning, as well as along the way, that his/her role as an instructor is to help them develop the understanding and skills needed to pass the course requirements. Frequently scheduled quizzes, with discussion of the results as a learning activity, help reduce this anxiety. Small-group problem-solving activities are also helpful. Preview and critique of reports before final submission also demonstrates that the instructor is willing to help students do well in the course.

It is sometimes observed that if students are given a copy of the final exam at the beginning of the course they may focus so closely on simply obtaining answers to these questions that they may fail to acquire the skill development they should carry with them beyond the course. The instructor can overcome this by having the final exam count as only part of the course requirement, say, less than half, and using assignments, reports and exercises for evidence of the development of skills that are not measurable through written examinations.

A few students may develop a false sense of security in having a copy of the final exam so far in advance of the actual administration of it. They may fail to see the value of continuous learning effort throughout the course and may give shallow, poorly thought out responses to the questions. They may not have taken time to use the higher order thinking skills required in mentally preparing for the kind of written responses expected by the instructor. A perceptive instructor heads off this hazard with periodic exercises that involve development of these critical thinking skills.

In classes with large enrollments, grading responses to essay types of questions on a final examination simply becomes impractical, even with a battery of TAs, each grading one question. One solution could be to use one essay exam requiring higher order thinking skills for each course objective as it has been completed during the course. This would have the effect of spreading the final exam throughout the course.

Motivation

This public disclosure of the final exam also presumes that you have somehow devised a scheme for lighting the little candles of curiosity that too often sit, unlit, in a dull, dingy classroom. How do you light them? Enthusiasm! -- the key to motivation. If you, the "all wise master" of your field

cannot get excited about your life's chosen work, who will? What challenging questions did you ask yourself today? Enthusiasm has been singled out by educational researchers as the most important ingredient of effective instruction. "The teacher's enthusiasm and dedication is the main vehicle for socializing the young into meaningful academic experiences." (Csikszentmihalyi and McCormack, 1986).

"What youngsters need, more than anything else, is purpose: meaningful goals toward which to channel their energies." (Csikszentmihalyi and McCormack, 1986). Effective teachers also spend time thinking about how to best convince students that the course content has relevance; they deliberately develop a kind of personal excitement for learning. "We learn as much or more from the way we are taught as from the message itself." (Daloz, 1986)

Have you clearly provide an opportunity for learning to take place? Have you deliberately used some of the precious class time for lively discussion? How much of the class time are you speaking instead of listening? Do you ask penetrating questions and patiently wait ten seconds for the first hand? Are you learning too?

Researchers tell us that "involvement" (opportunity to learn) and "variety" and "business-like" control are other keys to effective instruction (Feldman, 1989).

If a course has clearly defined, worthwhile, attainable objectives that are intended to encourage enrollees to grow in competence, it should be motivational to distribute the final examination at the first meeting of the class" -- from whom no secrets are hid."

Framing Objectives

Where are we going? How do we give focus to the really important concepts and competency development in a course? With diligent, thoughtful consideration, most of us can come up with six to ten clear statements that comprise the objectives of a course: what we expect students to be capable of doing upon completion of the course that they were unable to do at the beginning of the course (Mager, 1975). "Highly effective teachers also specify what they want their students to be able to do with those central elements -- they want their students to be able -- on their own -- to use key concepts, interrelate them, and transfer their understanding to other learning situations." (Guskey, 1989). Further, these publicly stated objectives should stand the scrutiny of peer review; they should be broad and deep enough to represent accepted scholarly learning in the field of study.

Writing the Exam

From these objectives, then, the instructor constructs the final examination questions for the course. It follows that if the course objectives involve development of higher order cognitive skills, then the final exam should test for these, and the most effective way to measure them is by the use of essay questions. Although the final examination (Figure 1) for AG ED 530 Agricultural College Teaching, two credits, is used for computing only 25 percent of the course grade (quizzes and reports are weighted heavily), do you think you can pass it without taking the course? Notice that the verbs used in it

solicit responses requiring higher order thinking skills. The final exam for this course has been distributed at the first class meeting for several years. In 1990, the end of the semester course evaluation by students enrolled in this course gave the following response to the question: "Rate the correspondence between announced course objectives and what was taught" (1 to 7 scale; 7 high): 6-36%, 7-64%. Tying together course objectives, instruction and evaluation by handing out the final exam early in the course is an effective strategy.

What kinds of questions should one ask? Clear, searching ones. Verbs that come to mind are: summarize, defend, analyze, discuss, synthesize, develop, explore, propose -- problem solving kinds of words. These kinds of questions are based on that presumption that you, the instructor, have helped students develop the terminology, principles and interrelationships needed to effectively answer "why" questions. Is that a safe presumption? The career success of college graduates depends very much on their ability to accept challenges and to solve problems.

To assure the integrity of the final examination, several colleagues should be asked to critique the course syllabus

Figure 1. Example of a Course-Objective Based Final Exam.

FINAL EXAMINATION AG ED 530 Agricultural College Teaching	
Name _____	12/13/91
Note: The following questions are repeated, one per page, on the attached sheets. Please use no more than the space of that page for your response.	
1. Research has shown that a relatively small number of teacher/learner behavioral characteristics have a positive effect on learning. Name them and for each characteristic, construct two or three examples of appropriate instructional techniques.	
2. Without surveying your agricultural class enrollees or clients (specify which), what reasonable assumptions can you make about their learning styles? Predict which instructional techniques are likely to be effective.	
3. Briefly explain three exercises that effectively teach thinking, and give the rationale for each.	
4. Explain why and how instructors teach interpersonal skills.	
5. Describe and discuss the usefulness of formative and summative evaluations for (a) instruction, and (b) learning.	
6. Briefly discuss the purposes of testing, and describe how each purpose is fulfilled in an academic setting. Use specific examples.	
7. Provide the rationale for each, and state and defend your position on normative versus criterion-referenced bases for assigning course grades.	
8. It has been proposed that an effective instructional strategy is to distribute the final examination for a course at the first class session. Briefly critique this proposal.	
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Table 1. Teaching Objectives Planning Guide.

Instructions: It is in the nature of objectives, or outcomes, to arrive last, yet our concept of the outcome can have an important influence on what leads to the objective. In this sense, defining objectives is the first step in planning a learning activity. For this reason, we ask you to work in right-to-left order, beginning with question 1, in thinking through your teaching plans. The result should be a sequential model of what you intend to do, which can then be implemented from left to right, beginning with box A in the second row.

5. How are your expectations communicated to students. What is their picture of the objectives they will need to meet?	4. What about the "how" of teaching? What sorts of formats or activities will you use to help students practice the abilities needed to meet (1) and (2)?	3. What subject-matter content will you cover in order to help students meet the expectations in (1) and (2)?	2. How are these changes to be measured? What sorts of performance by students will be the criteria?	1. How do you want students to be changed as a result of this class? What will they perceive, or be able to do, that they cannot do now?
(A)	(B)	(C)	(D)	(E)

From Andrews, 1985, "Why TA Training Needs Instructional Innovation." p. 50, with permission of Jossey-Bass, Inc. Publishers.

and the final examination for congruity. For the same purpose, the instructor should also "test the test" by writing out in detail for himself/herself the expected responses to the questions.

Planning Instruction

How are we going to get to where we are going? Once we have framed the course objectives, how do we build the course around them? Exceptionally effective teachers "--focus on the most central concepts, emphasizing them during the initial presentations and reviewing and reinforcing them throughout the instructional process." (Guskey, 1989). "If the objectives are broadly described and involve intellectual challenge, and if that challenge is embodied in the measurement/grading system, then both the content and the thinking approach required can be conveyed to students via syllabi, assignments, and class activities." (Andrews, 1985) *Table 1. Teaching Objectives Planning Guide* is a useful device for "getting the ducks in order", in planning both course objectives and objectives for a single class session, as well as the instruction and evaluation involved.

Effective teachers carefully outline a sequence of topics and experiences that lead to accomplishment of the goals of the course (Kemp, 1985). Often the question is not one of what to include but rather, what to leave out of the course. "Nice to know" things that do not lead directly toward fulfillment of a course objective should be omitted. New teachers are sometimes disappointed to discover that time constraints make it impossible for them to transmit "every-

thing I know."

When an instructional unit has been completed with a class, the instructor should take time out for review. He/she might even observe that "You should now have a very good idea of how to answer question number 2 in the final exam; are there any concerns about this?" If there are concerns, they should be addressed until the students are satisfied that they can perform well in dealing with the question.

Frequent quizzes and assignments are used as a means of checking on progress and correcting errors or omissions and keeping everyone, including the instructor, "on course". Feedback should be immediate, specific and prescriptive, as well as reinforcing and rewarding; positive comments have a strong motivating effect on student performance (Guskey, 1988). These formative evaluations are a critical component of criterion-reference (mastery) grading.

Occasionally it is worthwhile to ask students to evaluate an exam; a very useful device for doing this is a questionnaire "Student Evaluation of an Exam" (McMullen-Pastrick, and Gleason, 1986) Test anxiety is reduced and a positive learning climate is established by a teacher who is open minded, demonstrates fairness and an interest in improving instruction. Effective instruction also includes having alternative plans for getting across an idea or concept when it is discovered that the first approach was not fully effective.

Clearly defined objectives also give a firm base on which to make selections of instructional content, materials, resources, and instructional methods for most effectively accomplishing what is planned.

Implications for Evaluation

--It (evaluation) guides their (student) judgement of what is important to learn, affects their motivation and self-perception of competence, structures their approaches to and timing of personal study, consolidates learning, and affects the development of enduring learning strategies and skills." (Crooks, 1988) These observations support the idea of providing a copy of the final exam early in the course as well as the value of frequent quizzes throughout the course. Together, these two devices help both the teacher and the student know where they are at any moment during their journey together. The copy of the final exam and frequent quizzes also provide an opportunity for every student to be successful in achieving what they set out to do.

In administering the final examination, it is a good idea to keep in mind that what we really want is for students to demonstrate that they can perform well in dealing with the course material at the higher level thinking skills. We also want them to demonstrate that they can retain these skills for some time (at least until the end of the semester!). They should be asked to bring only a pencil. The questions must be identical to those distributed the first day of class. However, prudence suggests that it may be a good idea to use paper that is a different color from that used in the original distribution (to avoid "switched" papers).

Summary

The unorthodox behavior of an instructor in handing out a copy of the final exam at the first class meeting has much merit. It forces the instructor to plan the course in a purposefully organized, carefully sequenced manner around clearly defined course objectives. These objectives, to have long-lasting usefulness, should measure higher level thinking skill development using the field of study as the "vehicle". Distributing the final first also improves the learning climate by reducing test anxiety, and promotes learning through the establishment of reasonable, attainable goals.

The instructor should be prepared to deal with the possibility that some students may view the course goals as unattainable; or they may think that the final exam is the only measure of achievement that really counts; or they may fail to recognize that evidence of higher order thinking skills is expected in final (summative) evaluation.

The fact that you would dare to pass out the final exam at the first class session also reveals something about you as a person. Why are you there at all? -- are you simply the exalted dispenser of treasures you hold; or are you there to facilitate learning? An instructor who reveals himself as a sensitive, caring, disciplined person creates a positive environment for learning. "For more than any other factor, it is the partnership of teacher and student that finally determines the value of an education." (Daloz, 1986)

Why not distribute the final exam the first day of class?

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RE

Editor's Note

The attached manuscript received the highest score of any in this June issue from peer reviewers. However, the reviewers wanted to make the following comments which help the reader relate to this outstanding effort by Professor Emeritus Stinson. We would like to encourage other comparable professional efforts by retired teachers. You can still contribute to NACTA and the NACTA Journal.

Peer Review Comments

(1.) The approach discussed is similar to "contract grading" where the student contracts with the instructor to meet specific course objectives.

(2.) Risk and uncertainty play a role in student motivation. We would all prefer that students learn for its own sake but the existence of negative reinforcement is an integral part of the learning process. Telling students what you want them to know is different than students learning what they need to know. The former involves acceptance, the latter involves discovery.

(3.) In theory, many of us have a set of course objectives at the beginning of the term. However, as the term progresses, we discover new ideas and applications which depart from the initial objectives. Hence, a course which binds the instructor and class to a static set of objectives limits the opportunity to introduce new ideas and topics as the term proceeds. In other words, teaching is a dynamic process and teaching techniques should allow flexibility.